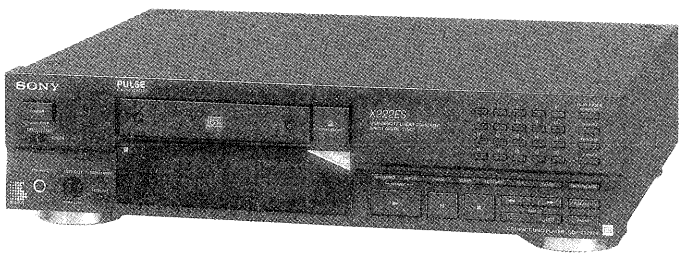
CDP-X222ES

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model



Model Name Using Similar Mechanism	NEW
CD Mechanism Type	CDM-11J-5BD3
Optical Pick-Up Block Type	BU-5BD3

SPECIFICATIONS

Compact disc player

Frequency response	2 Hz – 20 kHz ±0.3 dB
Signal to noise ratio	More than 115 dB
Dynamic range	More than 100 dB
Harmonic distortion	Less than 0.0025%
Channel separation	More than 105 dB

Outputs

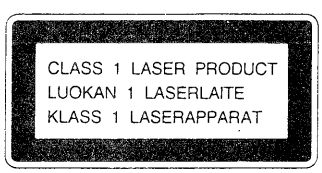
LINE OUT (FIXED) (phono jacks)	Output level 2 V (at 50 kiloohms) Load impedance over 10 kiloohms
LINE OUT (VARIABLE) (phone jacks)	Output level max. 2 V (at 50 kiloohms) Load impedance over 50 kiloohms
DIGITAL OUT (OPTICAL) (optical output connector)	Wave length 660 nm Output level –18 dBm
HEADPHONES (Stereo phone jack)	Output level max. 28 mW Load impedance 32 ohms

General

Power requirements	AEP model 220-230V AC, 50/60Hz UK, Australian model 240V AC, 50/60Hz US, Canadian model 120V AC, 60Hz E model 110-120, 220-240V AC adjustable, 50/60Hz
Power consumption	17 W
Dimensions (approx., including projections)	430×110×340 mm (w/h/d) (17×4 3/8×13 1/2 inches)
Weight (approx.)	6.2 kg (13 lbs 11 oz)

—continued on next page—

For the United Kingdom and European countries



This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

COMPACT DISC PLAYER

SONY®

Remote commander RM-D991

Remote control system	Infrared control
Power requirements	3 V DC with two batteries size AA (IEC designation R6)
Dimensions	62×18×175 mm (w/h/d) ($2\ ^1/_2 \times ^{23}/_{32} \times 7$ inches)
Weight	130 g (4.6 oz) Including batteries

Supplied accessories

Connecting cord	1 (2 phono plugs ↔ 2 phono plugs)
Remote commander	1
R6 (size AA) batteries	2

Design and specifications subject to change without notice.

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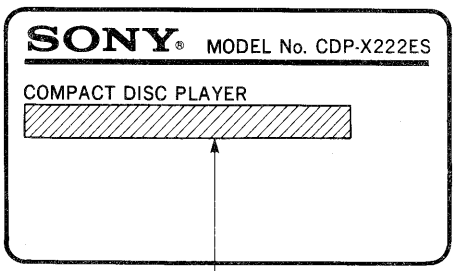
MODEL IDENTIFICATION
—Model Number Label—



US, Canadian Model: AC: 120V 60Hz 17W
AEP Model: AC: 220—230V~50Hz
UK, Australian Model: AC: 240V~50/60Hz
E, Model: AC: 110—120/220—240V~50/60Hz 17W

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

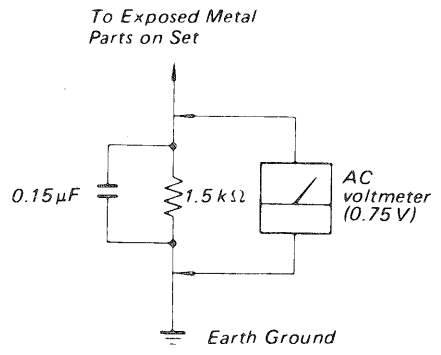


Fig. A. Using an AC voltmeter to check AC leakage.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30cm away from the objective lens.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

1. Laser Diode Properties
   - Material: GaAlAs
   - Wavelength: 780 mm
   - Emission Duration: continuous
   - Laser Output Power: less than 44.6 μW*
     * This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

2. During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including APC board).

BESKYTTELSE AF ØJNE MOD LASERSTRÅLING UNDER SERVICE

I dette apparat anvendes laserlys. Derfor skal nedenstående instruktioner nøje følges under service.

Følg iøvrigt instruktionerne i servicemanualen.

ADVARSEL!!

Under service må øjnene ikke komme nær objektiv-linsen på den optiske pick-up enhed. I tilfælde af at det er nødvendigt at kontrollere udsendelsen af laserlys, skal det ske i en afstand af mere end 25 cm fra den optiske pick-up.

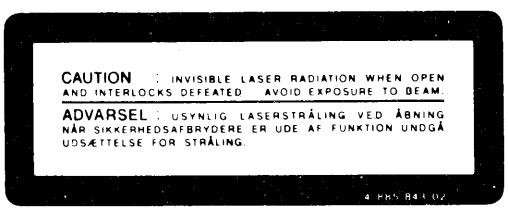
1. Laser-didoe data
   - Materiale: GaAlAs
   - Bølgelængde: 780 nm
   - Udstråling: Kontinuerlig
   - Laseroutput: Max. 0,4 mW*
     * Målt i 1,6 mm afstand fra overfladen af objektiv-linsen pa den optiske pick-up enhed.
   - Klassifikation: Klasse IIIb.

2. Adskil aldrig den optiske pick-up enhed under service, og juster ikke APC kredsløbet (Automatic Power Control). Hvis APC kredsløbet (incl. laser-dioden) bryder ned, skal hele den optiske pick-up enhed (incl. APC printkortet) udskiftes.

LASER ADVARSEL MÆRKNING

Følgende mærkning findes indvendig i apparatet:

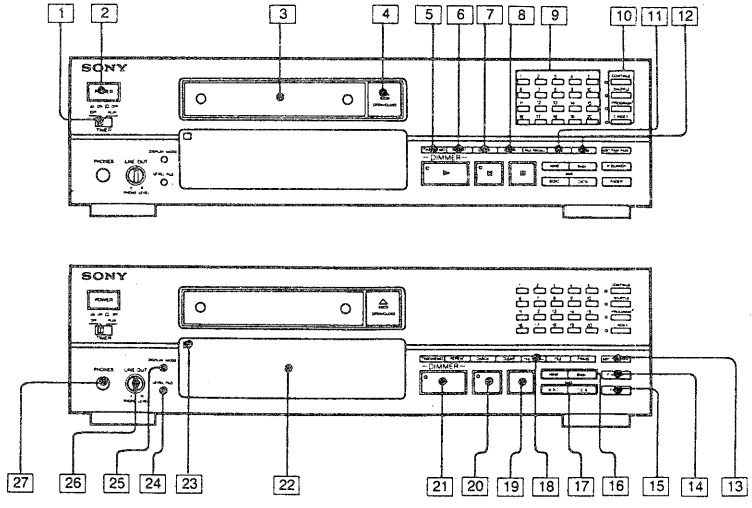
1. Advarsel Mærkning


CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSÆTTELSE FOR STRÅLING.

VAROITUS: Laite sisältää, laserdiodin, joka lähettää (näkymätöntä) silmille vaarallista lasersateilyä.

Location of Controls

Front Panel

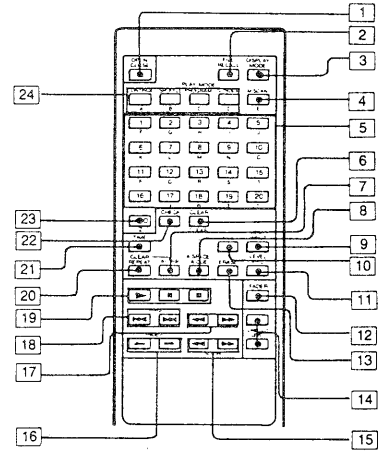


Refer to the pages indicated in ⊕ for details.

1 TIMER switch ⑱
2 POWER switch ⑱
3 Disc tray ⑱
4 ≙ OPEN/CLOSE button ⑳
5 TIME/MEMO button ㉔
6 REPEAT button ⑱
7 CHECK (program check) button ⑯
8 CLEAR (program clear) button ⑯
9 Numeric buttons ⑳
10 Play mode buttons
CONTINUE button ⑱
SHUFFLE button ⑱
PROGRAM button ⑯
C. (custom) INDEX button ⑰
11 FILE (custom file) button ⑳
12 ERASE (memory erase) button ⑳
13 EDIT/TIME FADE button ⑱
14 P.(peak) SEARCH button ⑯
15 FADER (fade in/fade out) button ⑱
16 ◀◀ ▶▶ (manual search) buttons ⑳
17 I◀◀ ▶▶I AMS* buttons ⑳
18 FILE RECALL button ⑳
19 ■ (stop) button ㉒
20 ❚❚ (pause) button ㉒
21 ▶ (play) button ㉒
22 Display window ㉓
23 Remote sensor ⑱
(For model CDP-X222ES, sensor is located on the bottom left of the display window.)
24 LEVEL FILE button ⑳
25 DISPLAY MODE button ㉓
26 LINE OUT/PHONE LEVEL control ㉒
27 PHONES jack ㉒

* AMS is the abbreviation of Automatic Music Sensor.

Remote Commander



Refer to the pages indicated in ⊕ for details.

1 ≙ OPEN/CLOSE button ⑳
2 FILE RECALL button ⑳
3 DISPLAY MODE button ㉓
4 M.(music) SCAN button ⑯
5 Numeric buttons ⑳
6 CLEAR button ⑯
7 A ↔ B repeat button ⑰
8 AUTO SPACE (auto space)/A.CUE (auto cue) button ㉘, ⑯
9 MEMO INPUT button ⑳
10 FILE (custom file) button ⑳
11 LEVEL FILE button ⑯
12 FADER (fade in/fade out) button ⑱
13 ERASE button ⑳
14 LINE OUT LEVEL (line out/headphone level) buttons ㉒
15 ◀◀ ▶▶ SLOW (low speed manual search) buttons ㉕
16 ⌐¬ INDEX buttons ㉓
17 ◀◀ ▶▶ (manual search) buttons ㉕
18 I◀◀ ▶▶I AMS* buttons ㉕
19 ■ (stop) button ㉒
❚❚ (pause) button ㉒
▶ (play) button ㉒
20 CLEAR REPEAT (A ↔ B repeat clear/repeat) button ⑱
21 TIME button ㉔
22 CHECK button ⑯
23 > 20 (over 20) button ㉕
24 PLAY MODE buttons
CONTINUE button ⑱
SHUFFLE button ⑱
PROGRAM button ⑯
C. INDEX button ⑰

Buttons with yellow letters (A, B, - - - - -) are for writing a disc memo (page 78).

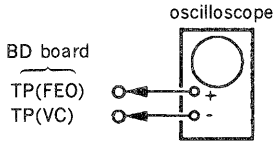
This section is extracted from instruction manual.

SECTION 2
ELECTRICAL BLOCK CHECKING

Note :

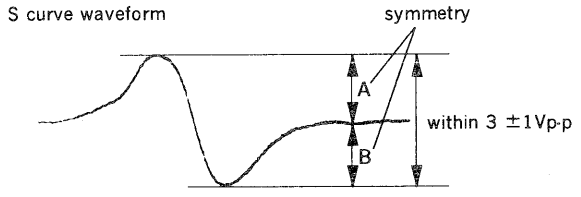
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FEO) on BD board.
2. Connect between test point TP (FES) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (actuate the focus serch when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.

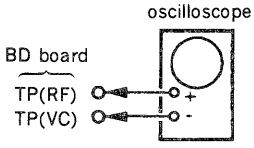


5. After check, remove the lead wire connected in step 2.

Note : ● Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.

● Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

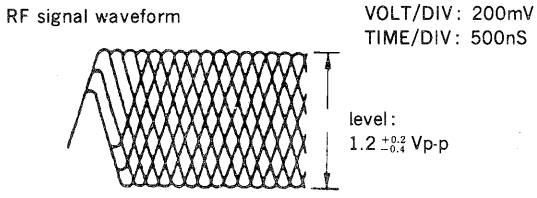


Procedure :

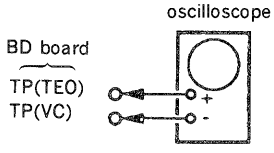
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note :

Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

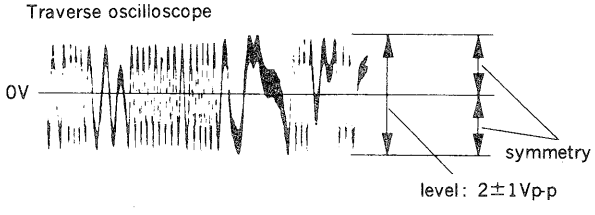


E-F Balance Check



Procedure :

1. Connect test point TP (ADJ) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

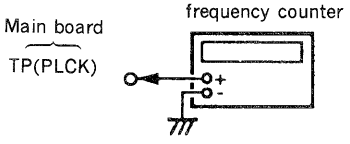


6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PLCK) with lead wire.



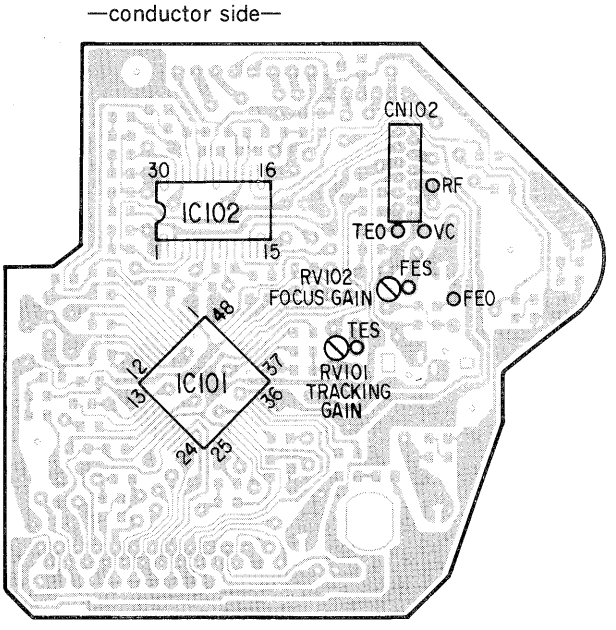
2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4.3218MHz.

Focus/Tracking Gain

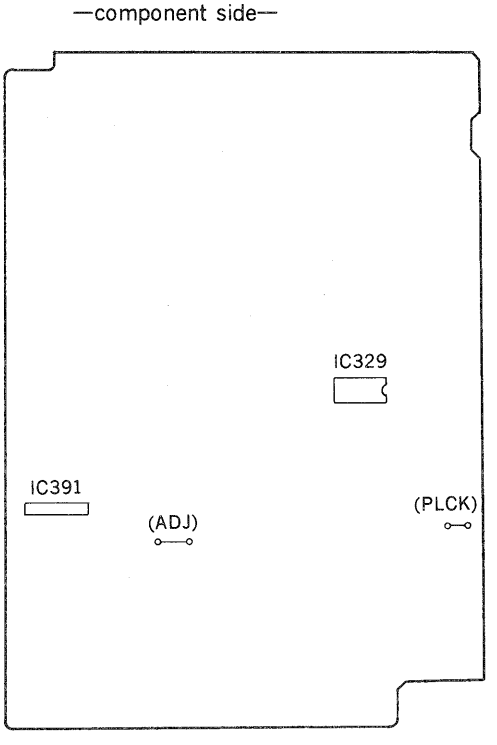
This gain has a margin, so even if it is slightly off.
There is no problem.
Therefore, do not perform, this adjustment.
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Adjustment Locations :

【BD board】

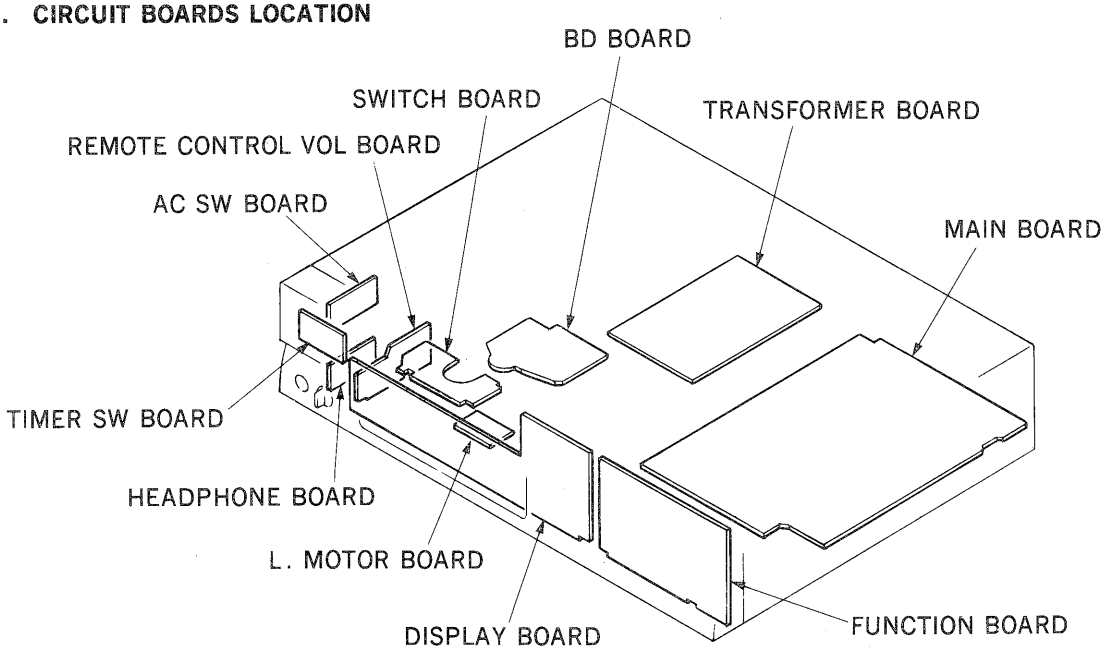


【MAIN board】



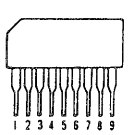
SECTION 3
DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION

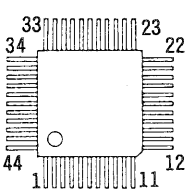


3-2. SEMICONDUCTOR LEAD LAYOUTS

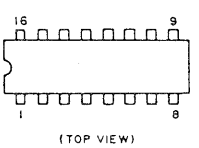
BA6208
M54641L



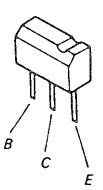
CXD2552Q-3



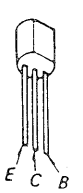
M5290P-16



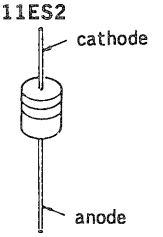
DTC114EF



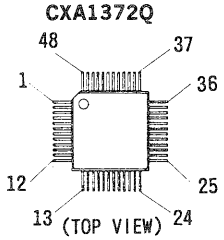
2SC2878-B



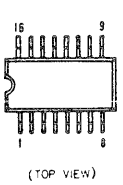
HZS36-3L
RD4.7JSB3
RD5.1ES-B2
RD5.6ES-B2
RD8.2ES-B2
11EQS04
11ES2



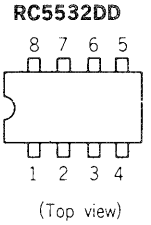
CXA1372Q



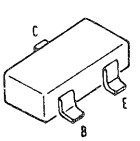
CXD2557M



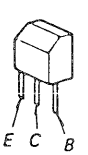
RC4556D
RC5532DD



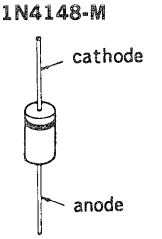
DTC144ES



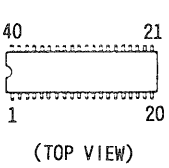
2SD774-34



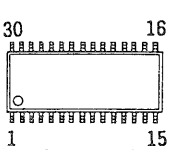
1N4148-M



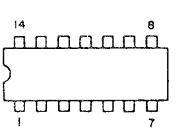
CXD1244S



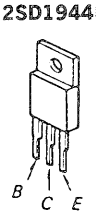
LA6532M



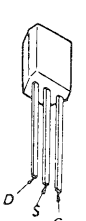
SN74HCU04AN



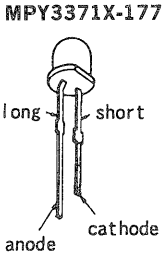
2SB1094L
2SD1944K



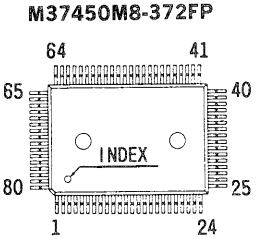
2SK161-GR



BR3371X
MAY3371X-M-177
MBG3371X-14
MBG3371X-177
MPY3371X-177

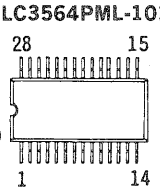


CXD2500AQ
MSC62408-015GS-V1K
M37450M8-372FP

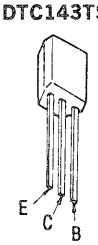


MARKING SIDE VIEW

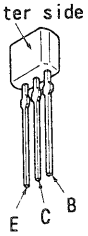
LC3564PML-1015



DTA114ES
DTC114ES
DTC143TS



2SC2785-HFE
letter side



CDP-X222ES CDP-X222ES

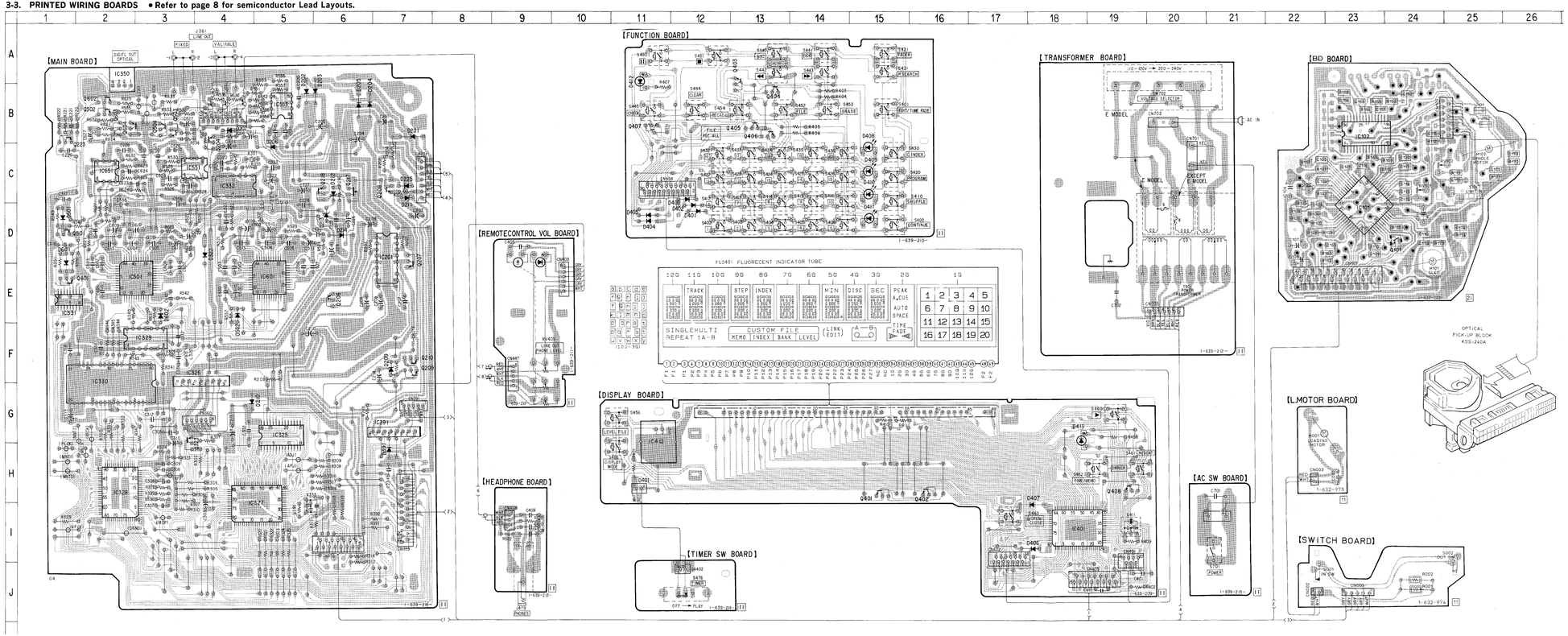
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D201	B-7	IC329	F-3
D202	B-5	IC330	F-2
D203	B-6	IC331	E-1
D204	B-6	IC332	C-4
D205	B-6	IC350	A-2
D206	C-5	IC391	G-7
D207	B-4	IC401	I-18
D209	F-7	IC412	G-11
D210	G-4	IC501	E-3
D211	C-7	IC551	C-3
D212	C-6	IC553	B-5
D213	D-6	IC601	E-5
D214	D-4	IC651	C-2
D225	C-7		
D322	D-4	Q101	D-24
D391	H-7	Q204	B-4
D401	D-12	Q206	E-6
D402	D-12	Q207	D-7
D403	C-12	Q208	C-7
D404	D-11	Q209	F-7
D405	D-11	Q210	F-7
D406	I-18	Q217	C-6
D407	I-18	Q218	C-6
D408	C-15	Q223	B-1
D409	C-15	Q323	H-3
D410	C-15	Q401	H-15
D411	D-15	Q402	H-16
D412	A-11	Q403	A-13
D413	G-18	Q404	B-13
D501	D-1	Q405	B-13
D502	E-4	Q406	B-13
D601	D-1	Q407	B-11
D602	E-3	Q408	H-19
		Q501	D-1
IC101	D-23	Q502	B-2
IC102	B-23	Q503	B-3
IC201	D-7	Q504	B-3
IC325	G-5	Q601	E-1
IC326	F-3	Q602	B-2
IC327	H-4	Q603	B-2
IC328	H-2	Q604	B-2

Note:

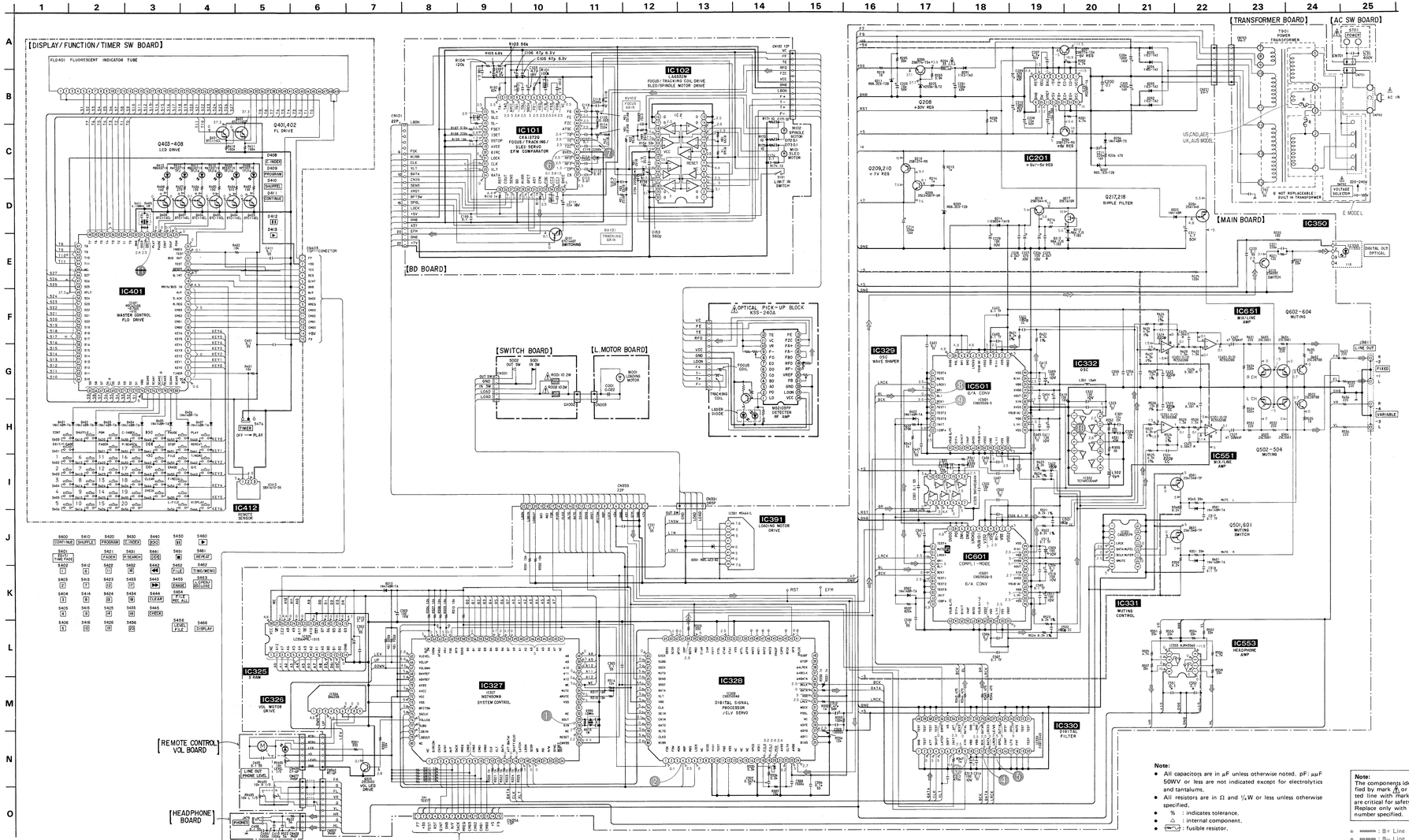
- ○—— : parts extracted from the component side.
- ● ● : Through hole.
- ▒▒▒ : Pattern on the side which is seen.
- ▒▒▒ : Pattern of the rear side.

3-3. PRINTED WIRING BOARDS • Refer to page 8 for semiconductor Lead Layouts.

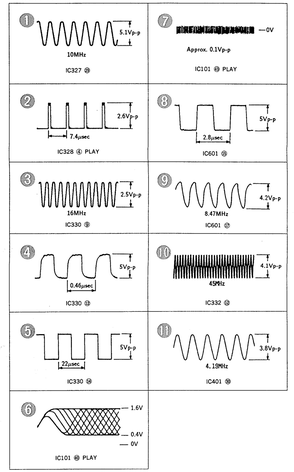


3-4. SCHEMATIC DIAGRAM

• Refer to page 18 for IC Block Diagrams.



• Wave forms


① 5.1Vp-p 10MHz IC327 ⑧
② 2.6Vp-p 7.4μsec IC328 ⑦ PLAY
③ 2.5Vp-p 16MHz IC330 ⑧
④ 5Vp-p 0.46μsec IC330 ⑩
⑤ 5Vp-p 22μsec IC330 ⑩
⑥ 1.6V 0.4V 0V IC101 ⑭ PLAY
⑦ 0V Approx. 0.1Vp-p IC101 ⑭ PLAY
⑧ 5Vp-p 2.8μsec IC601 ⑧
⑨ 4.2Vp-p 8.47MHz IC601 ⑧
⑩ 4.1Vp-p 45MHz IC332 ⑧
⑪ 3.8Vp-p 4.19MHz IC401 ⑧

• Fluorescent Indicator Tube Terminal

	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	a	a	a	a	a	a	a	a	a	a	REPEAT	1
P2	b	b	b	b	b	b	b	b	b	b	1	2
P3	c	c	c	c	c	c	c	c	c	c	A–	3
P4	d	d	d	d	d	d	d	d	d	d	B	4
P5	e	e	e	e	e	e	e	e	e	e	A.CUE	5
P6	f	f	f	f	f	f	f	f	f	f	AUTO SPACE	6
P7	g	g	g	g	g	g	g	g	g	g	SINGLE	7
P8	h	h	h	h	h	h	h	h	h	h	MULTI	8
P9	i	i	i	i	i	i	i	i	i	i	CUSTOM FILE	9
P10	j	j	j	j	j	j	j	j	j	j	MEMO	10
P11	k	k	k	k	k	k	k	k	k	k	INDEX	11
P12	l	l	l	l	l	l	l	l	l	l	BANK	12
P13	m	m	m	m	m	m	m	m	m	m	LEVEL	13
P14	n	n	n	n	n	n	n	n	n	n	[ING]	14
P15	o	o	o	o	o	o	o	o	o	o	EDIT	15
P16	p	p	p	p	p	p	p	p	p	p	–	16
P17	q	q	q	q	q	q	q	q	q	q	A	17
P18	r	r	r	r	r	r	r	r	r	r	B	18
P19	s	s	s	s	s	s	s	s	s	s	CD	19
P20	t	t	t	t	t	t	t	t	t	t	TIME	20
P21	u	u	u	u	u	u	u	u	u	u	FADE	–
P22	v	v	v	v	v	v	v	v	v	v	▶▶|	–
P23	w	w	w	w	w	w	w	w	w	w	◀◀|	–
P24	x	x	x	x	x	x	x	x	x	x	–	–
P25	y	y	y	y	y	y	y	y	y	y	–	▦
P26	–	TRACK	–	STEP	INDEX	–	–	MIN	DISC	SEC	PEAK	▷
P27	–	–	–	–	–	–	–	○	–	–	–	–

Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- : fusible resistor.

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

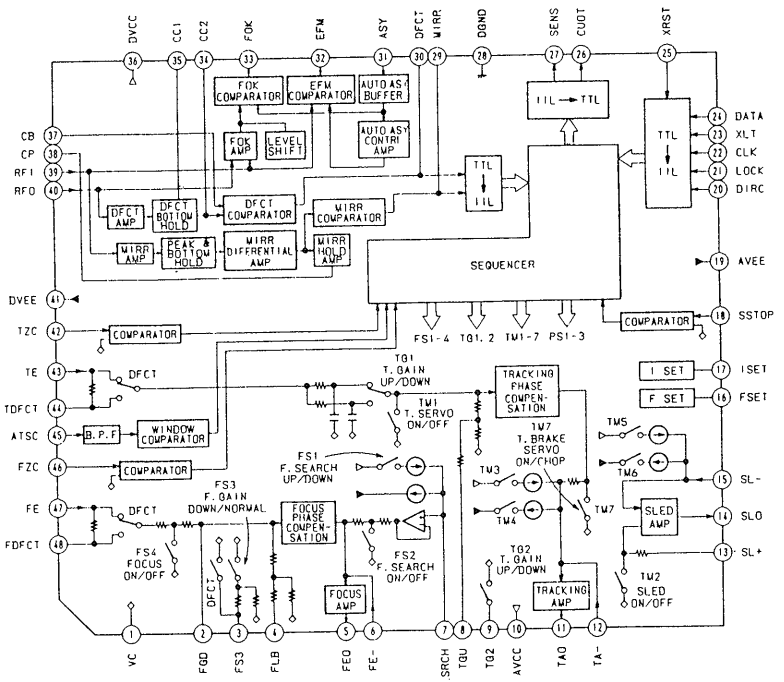
Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- : B+ Line
- : B– Line
- : adjustment for repair.

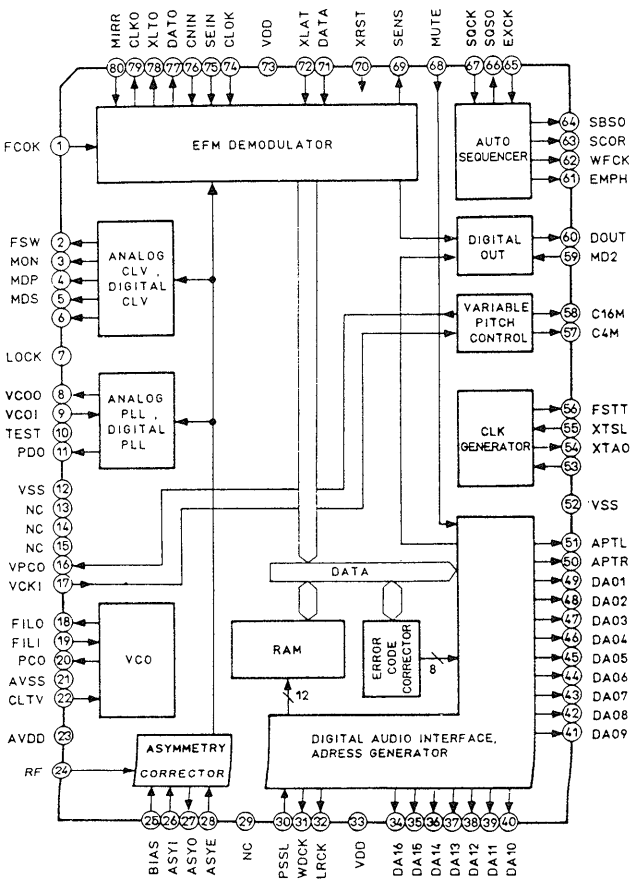
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : STOP
  ✻ : Impossible to measure the voltage at the marked points.
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Waveforms may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- **Signal path.** : CD
  : digital out

• IC Block Diagrams

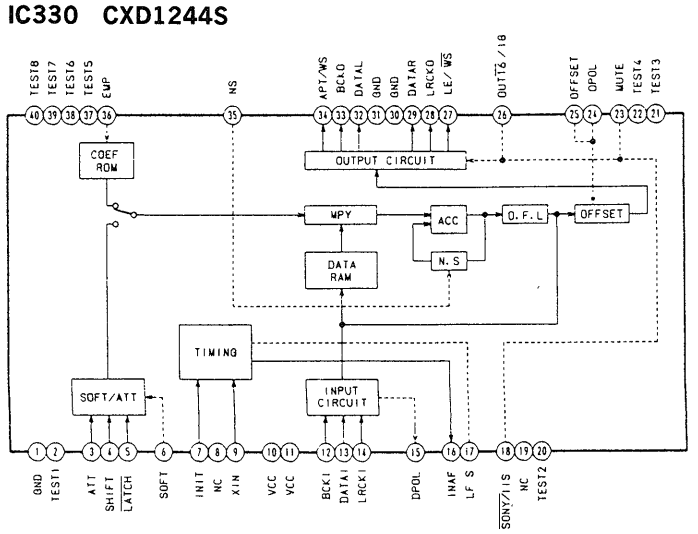
IC101 CXA1372Q



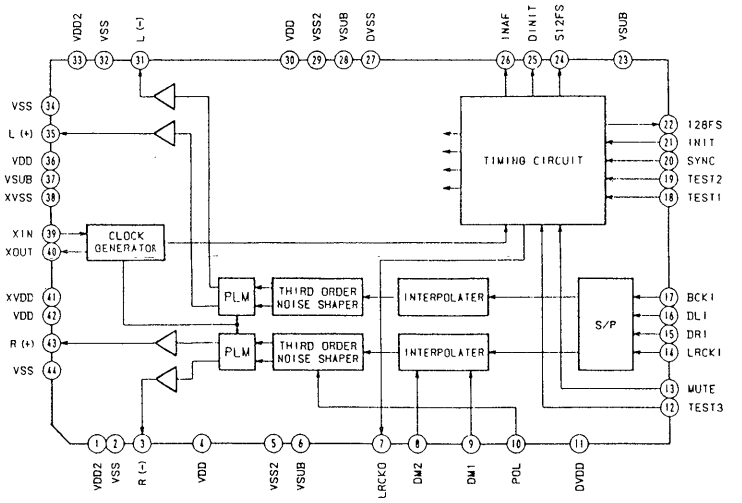
IC328 CXD2500AQ



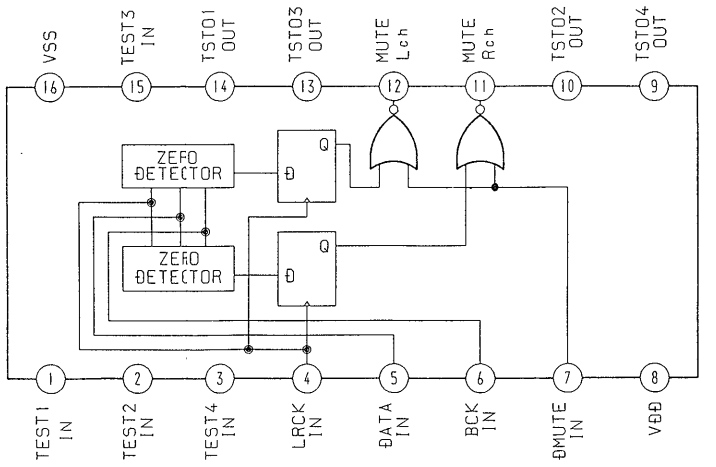
IC330 CXD1244S



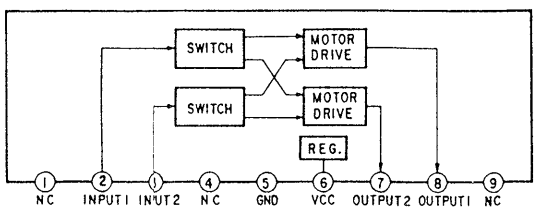
IC501, 601 CXD2552Q-3



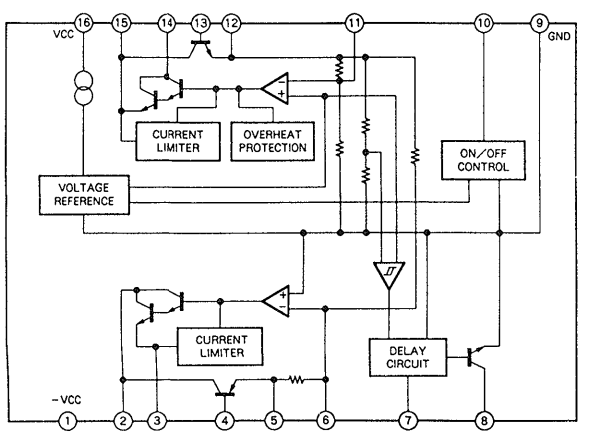
IC331 CDX2557M



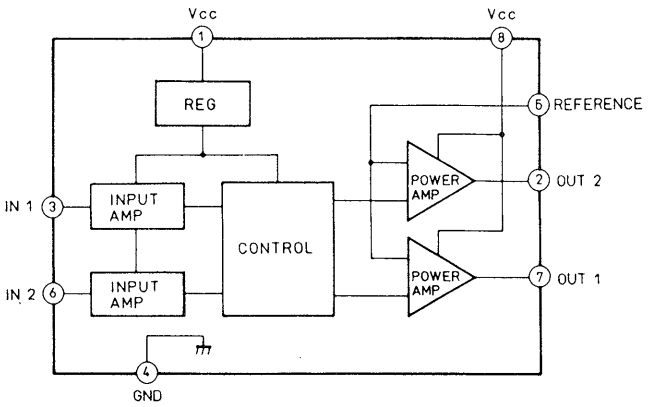
IC362 BA6208



IC201 M5290P



IC391 M54641L



SECTION 4
EXPLODED VIEWS

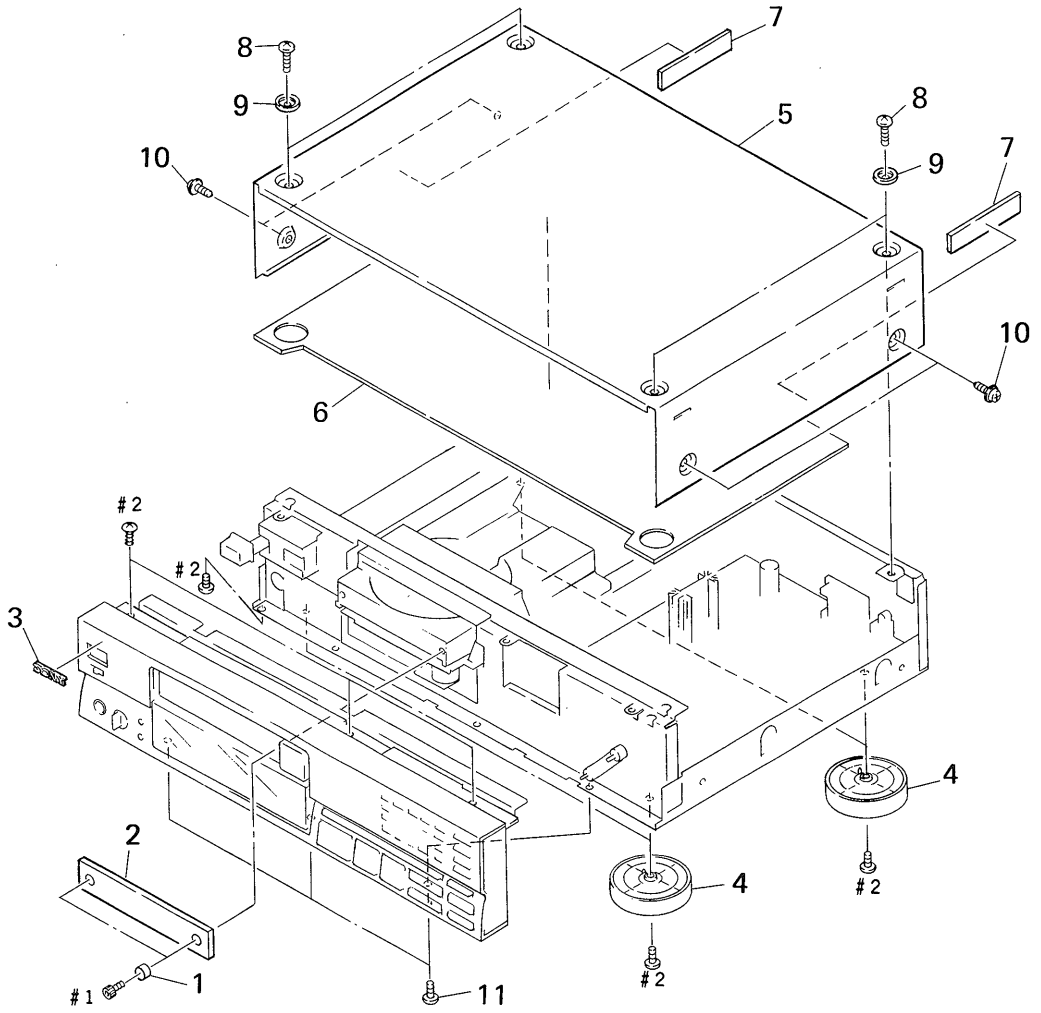
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE)...(RED)
  ↑ Parts Color ↑ Cabinet's Color
- AUS : Australian model
- Hardware(# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

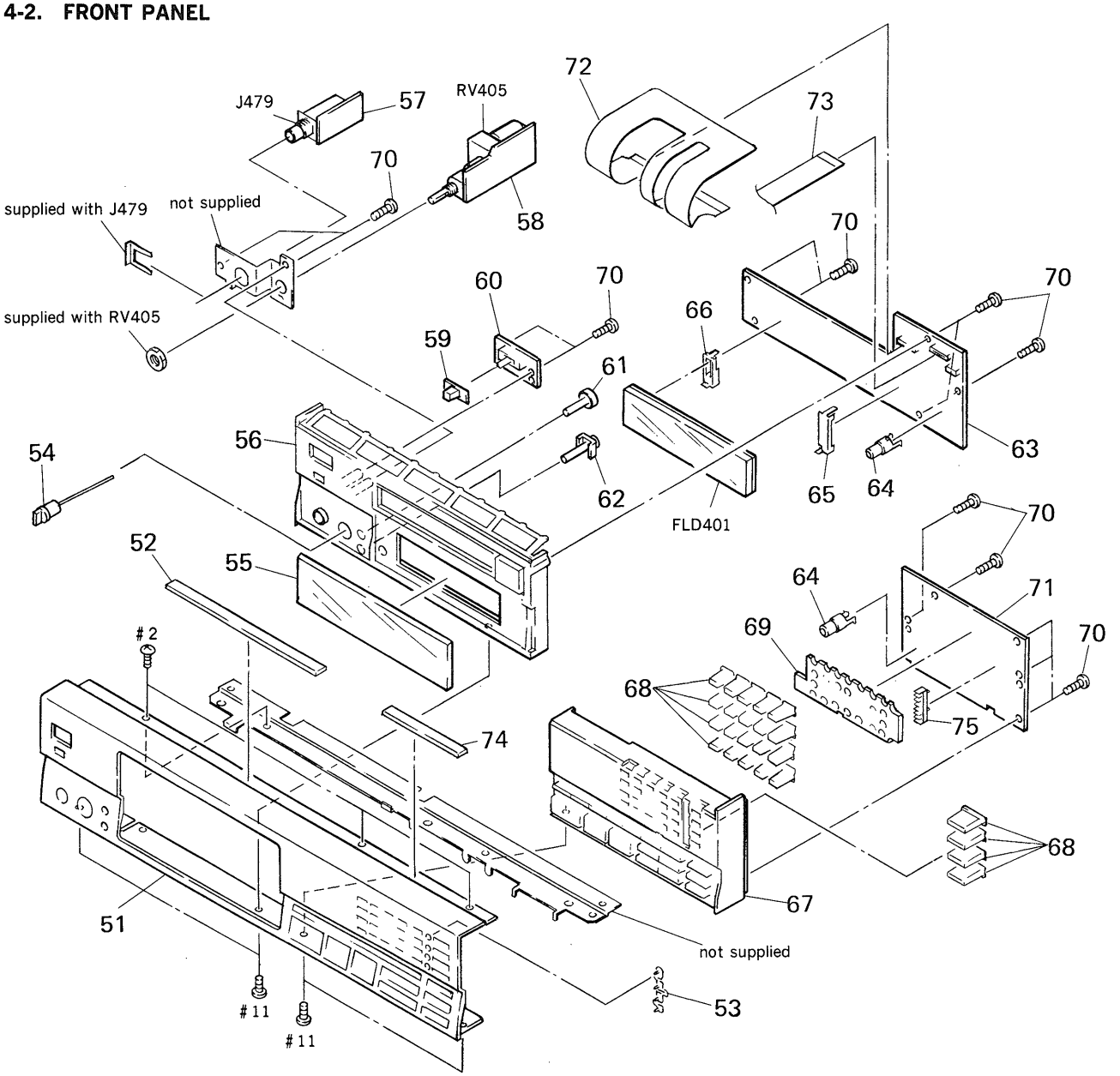
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifé.

4-1. CABINET



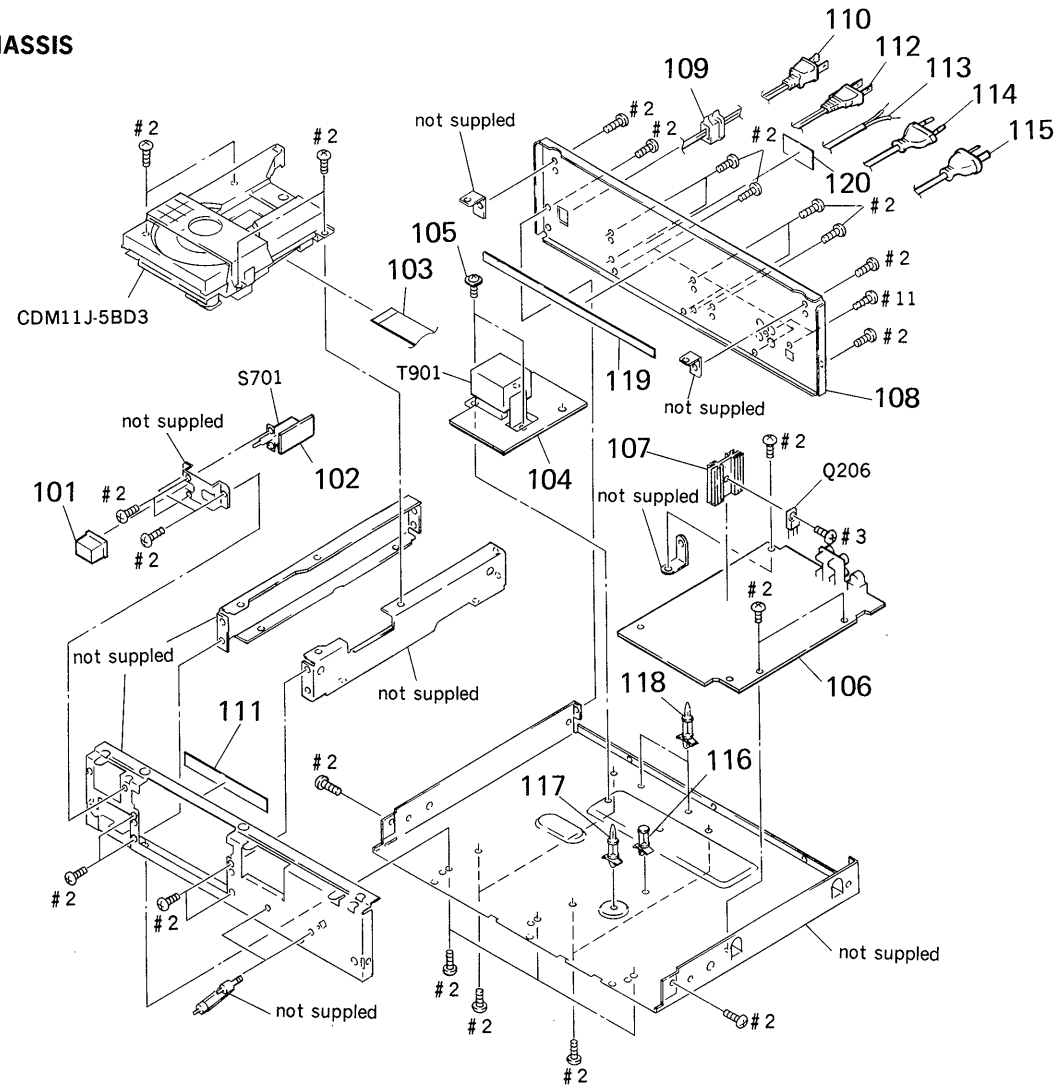
Ref. No.	Part No.	Description	Remark
1	4-884-635-00	BASE, ORNAMENTAL	
2	X-4941-212-1	PANEL ASSY, LOADING	
3	4-908-848-01	EMBLEM, SONY	
4	X-3304-944-1	FOOT ASSY	
5	4-934-008-01	CASE	
6	* 4-929-571-01	REINFORCEMENT (CASE)	
7	9-911-845-XX	CUSHION (TOP CASE)	
8	3-721-187-01	SCREW (3X8)	
9	4-928-025-11	ESCUTCHEON (TOP PLATE)	
10	3-704-366-01	SCREW (CASE) (M3X8)	
11	3-703-685-21	SCREW (+BV 3X8)	

4-2. FRONT PANEL



Ref. No.	Part No.	Description	Remark
51	4-944-288-01	PANEL, FRONT (US, UK, AUS, Canadian)	
51	4-944-288-01	PANEL, FRONT (E, AEP)	
52	* 4-929-557-01	CUSHION (PANEL)	
53	4-944-286-01	INDICATOR (MODE)	
54	A-4604-698-A	KNOB (HP) ASSY	
55	4-944-285-02	PLATE, INDICATION	
56	X-4941-491-1	PANEL (L) (SUB) ASSY	
57	* 1-639-213-11	HEADPHONE BOARD	
58	* 1-639-211-11	REMOTE CONTROL VOL BOARD	
59	4-922-518-11	KNOB (TIMER)	
60	* 1-639-214-11	TIMER SW BOARD	
61	4-941-084-01	BUTTON (DISPLAY)	
62	4-941-085-01	BUTTON (LEVEL)	
63	* 1-639-209-11	DISPLAY BOARD	
64	* 4-941-258-01	HOLDER (LED/PA)	
65	* 4-944-284-01	HOLDER (R)	
66	* 4-944-290-01	HOLDER (L)	
67	X-4941-492-1	PANEL (R) (SUB) ASSY	
68	4-941-079-01	BUTTON (20 KEY)	
69	* 4-944-291-01	CUSHION (20 KEY)	
70	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
71	* 1-639-210-11	FUNCTION BOARD	
72	1-535-896-11	JUMPER, FILM (WITH TERMINAL)	
73	1-590-882-11	WIRE, FLAT TYPE (15 CORE)	
74	9-911-845-XX	CUSHION (TOP CASE)	
75	* 4-944-289-01	HOLDER (LED/M)	
FLD401	1-519-622-11	INDICATOR TUBE, FLUORESCENT	
J479	1-568-519-41	JACL, LARGE TYPE (PHONES)	
RV405	1-241-321-11	RES, VAR, CARBON 10KX3 (LINE OUT PHONE LEVEL)	

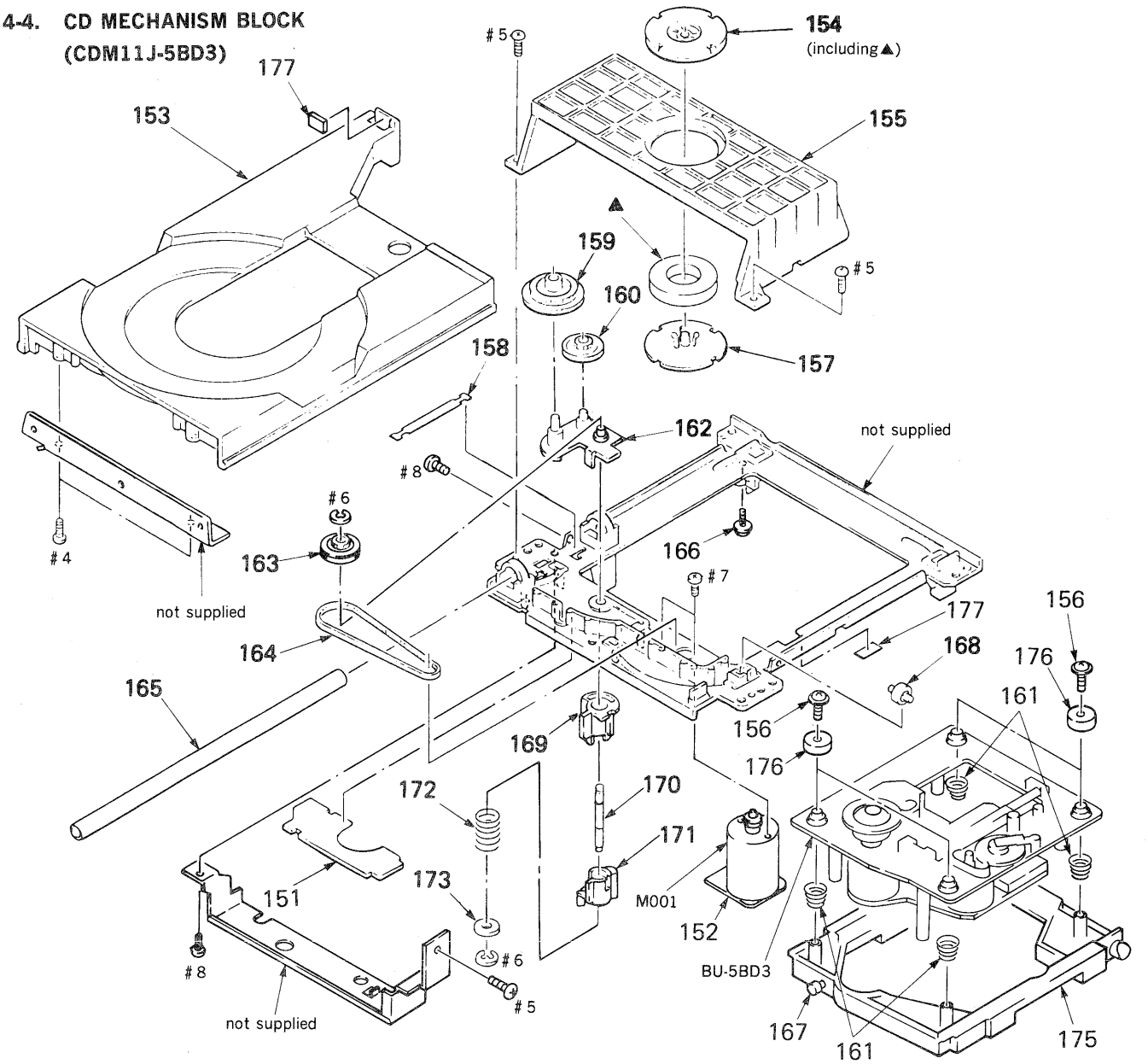
4-3. CHASSIS



Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

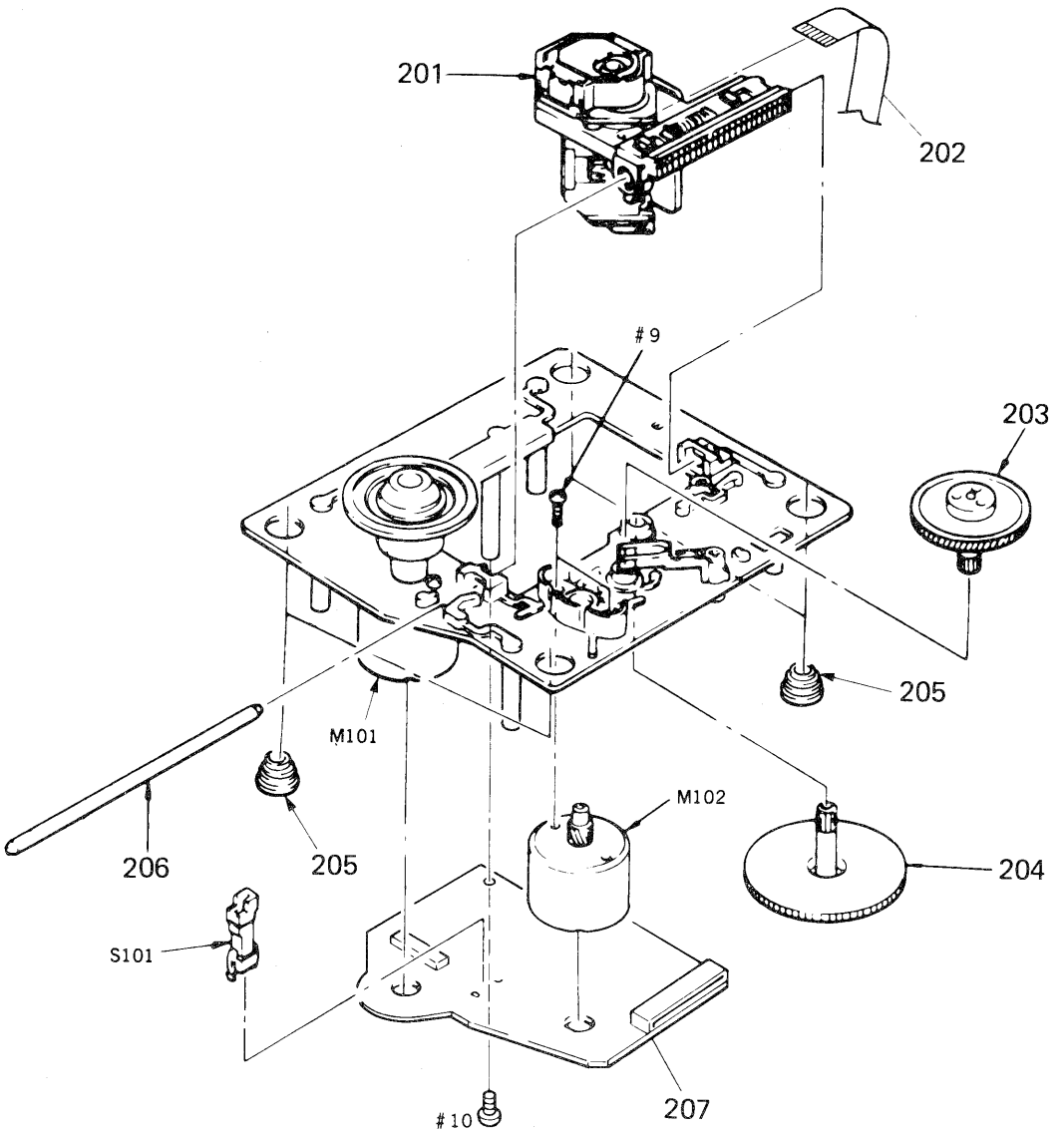
Ref. No.	Part No.	Description	Remark
101	4-923-520-01	KNOB, POWER	
102	* 1-639-215-11	AC SW BOARD	
103	1-590-883-11	WIRE, FLAT TYPE (22 CORE)	
104	* 1-639-212-11	TRANSFORMER BOARD	
105	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6	
106	* A-4617-836-A	MAIN BOARD, COMPLETE	
107	* 4-908-502-01	HEAT SINK	
108	* 4-943-715-31	PANEL, BACK (UK)	
108	* 4-943-715-41	PANEL, BACK (E)	
108	* 4-943-715-01	PANEL, BACK (US)	
108	* 4-943-715-11	PANEL, BACK (Canadian)	
108	* 4-943-715-21	PANEL, BACK (AEP)	
108	* 4-943-715-51	PANEL, BACK (AUS)	
109	* 3-703-244-00	BUSHING (2104), CORD	
110	⚠ · 1-559-583-21	CORD, POWER (US, Canadian)	
111	3-831-441-11	SPACER	
112	⚠ · 1-558-181-21	CORD, POWER (E)	
113	⚠ · 1-559-555-21	CORD, POWER (UK)	
114	⚠ · 1-558-568-21	CORD, POWER (AEP)	
115	⚠ · 1-575-379-21	CORD, POWER (AUS)	
116	* 3-349-025-41	HOLDER, PC BOARD	
117	* 4-924-098-01	HOLDER, PC BOARD	
118	* 4-943-687-11	HOLDER, PC BOARD	
119	* 4-927-653-01	SHEET (F/P)	
120	* 4-941-548-01	LABEL, CLASS 1 (AEP, UK, E, AUS)	
Q206	8-729-111-67	TRANSISTOR 2SB1274SA-R	
S701	⚠ · 1-570-156-11	SWITCH, PUSH (AC 0IWER) (1 KEY) (POWER)	
T901	⚠ · 1-449-921-11	TRANSFORMER, POWER (US, Canadian)	
T901	⚠ · 1-449-922-11	TRANSFORMER, POWER (UK, AEP, AUS)	
T901	⚠ · 1-449-923-11	TRANSFORMER, POWER (E)	

4-4. CD MECHANISM BLOCK (CDM11J-5BD3)



Ref. No.	Part No.	Description	Remark
151	* 1-632-974-11	SWITCH BOARD	
152	* 1-632-975-11	L. MOTOR BOARD	
153	* 4-927-642-01	TABLE (EXL), DISK	
154	A-4665-024-A	MAGNET ASSY	
155	* 4-927-638-03	HOLDER (A. P)	
156	4-933-134-01	SCREW (+PTPWH M2. 6X6)	
157	* 4-918-679-04	PULLEY, PRESS	
158	* 4-927-648-01	SLIDER (GROUND)	
159	4-927-620-01	GEAR (P)	
160	4-927-628-01	GEAR (C)	
161	4-917-541-01	SPRING (B)	
162	X-4927-608-1	ARM ASSY, SWING	
163	4-929-724-01	PULLEY (B)	
164	4-927-649-01	BELT	
165	4-927-617-01	BAR, GUIDE	
166	* 4-917-583-21	BRACKET, YOKE	
167	4-927-631-01	ROLLER (L)	
168	4-927-627-01	ROLLER (S. G)	
169	4-927-624-01	CAM (L. A)	
170	4-927-665-01	SHAFT (S)	
171	4-927-635-01	CAM (L. B)	
172	3-659-338-00	SPRING, COMPRESSION	
173	4-927-654-01	WASHER (LIMITER)	
174	* 4-927-670-01	CUSHION (MD)	
175	4-943-118-01	HOLDER (BD)	
176	4-943-119-01	HOLDER (SP)	
177	3-831-441-XX	CUSHION	
M001	A-4604-347-A	MOTOR (L) ASSY	

4-5. OPTICAL PICK-UP BLOCK (BU-5BD3)



Ref. No.	Part No.	Description	Remark
201	8-848-144-11	DEVICE, OPTICAL KSS-240A	
202	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
203	4-917-567-01	GEAR (M)	
204	4-917-564-01	GEAR (P), FLATNESS	
205	4-933-126-01	INSULATOR (A)	
206	4-917-565-01	SHAFT, SLED	
207	* A-4617-371-A	BD BOARD, COMPLETE	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
S101	1-572-085-11	SWITCH, LEAF (LIMIT IN)	

SECTION 5
ELECTRICAL PARTS LIST

BD

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- CAPACITORS
  uF: μF
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: μH
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD....
- AUS : Australian model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

Ref. No.	Part No.	Description			Remark
	* A-4617-371-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C102	1-163-989-11	CERAMIC CHIP	0.033uF	10% 25V	
C103	1-126-163-11	ELECT	4.7uF	20% 50V	
C104	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C105	1-126-154-11	ELECT	47uF	20% 6.3V	
C106	1-126-154-11	ELECT	47uF	20% 6.3V	
C107	1-126-154-11	ELECT	47uF	20% 6.3V	
C108	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C109	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C110	1-163-989-11	CERAMIC CHIP	0.033uF	10% 25V	
C111	1-131-367-00	TANTALUM	22uF	10% 20V	
C112	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C113	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C114	1-164-161-11	CERAMIC CHIP	0.0022uF	10% 100V	
C115	1-164-161-11	CERAMIC CHIP	0.0022uF	10% 100V	
C117	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C118	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C119	1-164-161-11	CERAMIC CHIP	0.0022uF	10% 100V	
C120	1-163-989-11	CERAMIC CHIP	0.033uF	10% 25V	
C151	1-163-019-00	CERAMIC CHIP	0.0068uF	10% 50V	
C152	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C153	1-163-006-11	CERAMIC CHIP	560PF	10% 50V	
C154	1-164-161-11	CERAMIC CHIP	0.0022uF	10% 100V	
C155	1-163-023-00	CERAMIC CHIP	0.015uF	5% 50V	
C171	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C172	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C173	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C174	1-163-038-00	CERAMIC CHIP	0.1uF	25V	

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
CN101	1-568-796-11	SOCKET, CONNECTOR 22P			
CN102	1-568-795-11	SOCKET, CONNECTOR 12P			
		< IC >			
IC101	8-752-050-82	IC CXA1372Q			
IC102	8-759-821-49	IC LA6532M			
		< JUMPER >			
J101	1-216-295-00	METAL CHIP	0	5% 1/10W	
J102	1-216-295-00	METAL CHIP	0	5% 1/10W	
		< TRANSISTOR >			
Q101	8-729-901-01	TRANSISTOR DTC144EK			
		< RESISTOR >			
R101	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R102	1-216-095-00	METAL CHIP	82K	5% 1/10W	
R103	1-216-091-00	METAL CHIP	56K	5% 1/10W	
R104	1-216-099-00	METAL CHIP	120K	5% 1/10W	
R105	1-216-069-00	METAL CHIP	6.8K	5% 1/10W	
R106	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R107	1-216-114-00	METAL GLAZE	510K	5% 1/10W	
R108	1-216-105-00	METAL CHIP	220K	5% 1/10W	
R109	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R110	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R111	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R112	1-216-083-00	METAL CHIP	27K	5% 1/10W	
R113	1-216-071-00	METAL CHIP	8.2K	5% 1/10W	
R114	1-216-105-00	METAL CHIP	220K	5% 1/10W	
R152	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R153	1-216-085-00	METAL CHIP	33K	5% 1/10W	

BD DISPLAY FUNCTION

Ref. No.	Part No.	Description			Remark
R154	1-216-085-00	METAL CHIP	33K	5%	1/10W
R155	1-216-093-00	METAL CHIP	68K	5%	1/10W
R156	1-216-081-00	METAL CHIP	22K	5%	1/10W
R157	1-216-079-00	METAL CHIP	18K	5%	1/10W
R158	1-216-079-00	METAL CHIP	18K	5%	1/10W
R159	1-216-079-00	METAL CHIP	18K	5%	1/10W
R160	1-216-049-00	METAL CHIP	1K	5%	1/10W
R171	1-216-001-00	METAL CHIP	10	5%	1/10W
R172	1-216-001-00	METAL CHIP	10	5%	1/10W
R173	1-216-001-00	METAL CHIP	10	5%	1/10W
R174	1-216-001-00	METAL CHIP	10	5%	1/10W
		< VARIABLE RESISTOR >			
RV101	1-238-016-11	RES. ADJ. CARBON 10K			
RV102	1-238-016-11	RES. ADJ. CARBON 10K			
		< SWITCH >			
S101	1-572-085-11	SWITCH. LEAF (LIMIT IN)			
**********					
*	1-639-209-11	DISPLAY BOARD			
		**********			
*	4-941-258-01	HOLDER (LED/PA)			
*	4-944-284-01	HOLDER (R)			
*	4-944-290-01	HOLDER (L)			
		< CAPACITOR >			
C411	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
CN403	* 1-568-834-11	SOCKET. CONNECTOR 15P			
CN406	* 1-580-470-11	SOCKET. CONNECTOR 7P			
CN407	* 1-569-511-11	SOCKET. CONNECTOR 14P			
		< DIODE >			
D406	8-719-987-63	DIODE 1N4148M			
D407	8-719-987-63	DIODE 1N4148M			
D413	8-719-987-XX	DIODE MBG3371X-14			
		< FLUORESCENT INDICATOR >			
FLD401	1-519-622-11	INDICATOR TUBE. FLUORESCENT			
		< IC >			
IC401	8-759-505-50	IC MSC62408-015GS-V1K			
IC412	8-749-922-36	IC GP1U50XB			

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q401	8-729-900-45	TRANSISTOR DTC114EF			
Q402	8-729-900-45	TRANSISTOR DTC114EF			
Q408	8-729-900-45	TRANSISTOR DTC114EF			
		< RESISTOR >			
R401	1-249-429-11	CARBON	10K	5%	1/4W
R402	1-249-429-11	CARBON	10K	5%	1/4W
R408	1-247-812-11	CARBON	160	5%	1/4W
R409	1-247-903-00	CARBON	1M	5%	1/4W
R410	1-249-441-11	CARBON	100K	5%	1/4W
R411	1-249-441-11	CARBON	100K	5%	1/4W
		< SWITCH >			
S456	1-554-303-21	SWITCH. KEY BOARD (LEVEL FILE)			
S460	1-554-303-21	SWITCH. KEY BOARD (▶)			
S461	1-554-303-21	SWITCH. KEY BOARD (REPEAT)			
S462	1-554-303-21	SWITCH. KEY BOARD (TIME/MEMO)			
S463	1-554-303-21	SWITCH. KEY BOARD (OPEN/CLOSE)			
S464	1-554-303-21	SWITCH. KEY BOARD (DISPLAY)			
		< CERAMIC >			
X411	1-577-101-11	VIBRATOR. CERAMIC (4.19MHz)			
**********					
*	1-639-210-11	FUNCTION BOARD			
		**********			
*	4-941-258-01	HOLDER (LED/PA)			
*	4-944-289-01	HOLDER (LED/M)			
		< CONNECTOR >			
CN404	* 1-580-462-11	SOCKET. CONNECTOR 20P			
		< DIODE >			
D401	8-719-987-63	DIODE 1N4148M			
D402	8-719-987-63	DIODE 1N4148M			
D403	8-719-987-63	DIODE 1N4148M			
D404	8-719-987-63	DIODE 1N4148M			
D405	8-719-987-63	DIODE 1N4148M			
D408	8-719-970-98	DIODE MPY3371X-177			
D409	8-719-987-97	DIODE BR3371X			
D410	8-719-971-52	DIODE MAY3371X-M-177			
D411	8-719-971-50	DIODE MBG3371X-177			
D412	8-719-971-52	DIODE MAY3371X-M-177			

FUNCTION **HEADPHONE** **MAIN**

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q403	8-729-900-45	TRANSISTOR DTC114EF			
Q404	8-729-900-45	TRANSISTOR DTC114EF			
Q405	8-729-900-45	TRANSISTOR DTC114EF			
Q406	8-729-900-45	TRANSISTOR DTC114EF			
Q407	8-729-900-45	TRANSISTOR DTC114EF			
		< RESISTOR >			
R403	1-249-407-11	CARBON	150	5% 1/4W	
R404	1-249-442-11	CARBON	510	5% 1/4W	
R405	1-249-407-11	CARBON	150	5% 1/4W	
R406	1-249-407-11	CARBON	150	5% 1/4W	
R407	1-249-410-11	CARBON	270	5% 1/4W	
		< SWITCH >			
S400	1-554-303-21	SWITCH, KEY BOARD (CONTENUE)			
S401	1-554-303-21	SWITCH, KEY BOARD (EDIT/TIME FADE)			
S402	1-554-303-21	SWITCH, KEY BOARD (1)			
S403	1-554-303-21	SWITCH, KEY BOARD (2)			
S404	1-554-303-21	SWITCH, KEY BOARD (3)			
S405	1-554-303-21	SWITCH, KEY BOARD (4)			
S406	1-554-303-21	SWITCH, KEY BOARD (5)			
S410	1-554-303-21	SWITCH, KEY BOARD (SHUFFLE)			
S412	1-554-303-21	SWITCH, KEY BOARD (6)			
S413	1-554-303-21	SWITCH, KEY BOARD (7)			
S414	1-554-303-21	SWITCH, KEY BOARD (8)			
S415	1-554-303-21	SWITCH, KEY BOARD (9)			
S416	1-554-303-21	SWITCH, KEY BOARD (10)			
S420	1-554-303-21	SWITCH, KEY BOARD (PROGRAM)			
S421	1-554-303-21	SWITCH, KEY BOARD (FADER)			
S422	1-554-303-21	SWITCH, KEY BOARD (11)			
S423	1-554-303-21	SWITCH, KEY BOARD (12)			
S424	1-554-303-21	SWITCH, KEY BOARD (13)			
S425	1-554-303-21	SWITCH, KEY BOARD (14)			
S426	1-554-303-21	SWITCH, KEY BOARD (15)			
S430	1-554-303-21	SWITCH, KEY BOARD (C. INDEX)			
S431	1-554-303-21	SWITCH, KEY BOARD (P. SEARCH)			
S432	1-554-303-21	SWITCH, KEY BOARD (16)			
S433	1-554-303-21	SWITCH, KEY BOARD (17)			
S434	1-554-303-21	SWITCH, KEY BOARD (18)			
S435	1-554-303-21	SWITCH, KEY BOARD (19)			
S436	1-554-303-21	SWITCH, KEY BOARD (20)			
S440	1-554-303-21	SWITCH, KEY BOARD (⏮)			
S441	1-554-303-21	SWITCH, KEY BOARD (⏭)			
S442	1-554-303-21	SWITCH, KEY BOARD (◀◀)			
S443	1-554-303-21	SWITCH, KEY BOARD (▶▶)			
S444	1-554-303-21	SWITCH, KEY BOARD (CLEAR)			
S445	1-554-303-21	SWITCH, KEY BOARD (CHECK)			
S450	1-554-303-21	SWITCH, KEY BOARD (■)			
S451	1-554-303-21	SWITCH, KEY BOARD (■)			
S452	1-554-303-21	SWITCH, KEY BOARD (FILE)			
S453	1-554-303-21	SWITCH, KEY BOARD (ERASE)			
S454	1-554-303-21	SWITCH, KEY BOARD (FILE RECALL)			

****

* 1-639-213-11 HEADPHONE BOARD
****

< CAPACITOR >

C408	1-164-159-11	CERAMIC	0.1uF		50V
C409	1-162-294-31	CERAMIC	0.001uF	10%	50V
C410	1-162-294-31	CERAMIC	0.001uF	10%	50V

< CONNECTOR >

CN408 * 1-564-719-11 PIN, CONNECTOR (SMALL TYPE) 3P

< JACK >

J479 1-568-519-41 JACK, LARGE TYPE (PHONES)

< RESISTOR >

R522	1-249-402-11	CARBON	56	5%	1/4W
R622	1-249-402-11	CARBON	56	5%	1/4W

****

* A-4617-836-A MAIN BOARD, COMPLETE
****

* 4-908-502-01 HEAT SINK
7-682-548-04 SCREW +BVTT 3X8 (S)

< CAPACITOR >

C200	1-164-159-11	CERAMIC	0.1uF		50V
C201	1-124-572-11	ELECT	100uF	20%	63V
C203	1-126-059-11	ELECT	10uF	20%	50V
C204	1-126-013-11	ELECT	1000uF	20%	16V
C205	1-126-016-11	ELECT	4700uF	20%	16V
C206	1-126-059-11	ELECT	10uF	20%	50V
C207	1-126-163-11	ELECT	4.7uF	20%	50V
C208	1-126-059-11	ELECT	10uF	20%	50V
C209	1-126-012-11	ELECT	470uF	20%	16V
C210	1-126-013-11	ELECT	1000uF	20%	16V
C211	1-126-024-11	ELECT	220uF	20%	16V
C214	1-126-024-11	ELECT	220uF	20%	16V
C215	1-125-622-11	DOUBLE LAYERS 0.10F			
C220	1-164-159-11	CERAMIC	0.1uF		50V
C221	1-162-286-31	CERAMIC	220PF	10%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C225	1-130-491-00	MYLAR	0.047uF	5%	50V
C226	1-124-994-11	ELECT	100uF	20%	10V
C227	1-124-997-11	ELECT	470uF	20%	10V
C228	1-130-491-00	MYLAR	0.047uF	5%	50V
C229	1-124-994-11	ELECT	100uF	20%	10V
C231	1-164-159-11	CERAMIC	0.1uF		50V
C302	1-164-159-11	CERAMIC	0.1uF		50V
C303	1-124-994-11	ELECT	100uF	20%	10V
C305	1-164-159-11	CERAMIC	0.1uF		50V
C306	1-164-159-11	CERAMIC	0.1uF		50V
C307	1-136-161-00	FILM	0.047uF	5%	50V
C308	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C309	1-162-306-11	CERAMIC	0.01uF	20%	16V
C310	1-126-043-11	ELECT	0.47uF	20%	50V
C311	1-126-163-11	ELECT	4.7uF	20%	50V
C312	1-162-290-31	CERAMIC	470PF	10%	50V
C313	1-124-994-11	ELECT	100uF	20%	10V
C314	1-164-159-11	CERAMIC	0.1uF		50V
C317	1-164-159-11	CERAMIC	0.1uF		50V
C318	1-164-159-11	CERAMIC	0.1uF		50V
C319	1-162-208-31	CERAMIC	24PF	5%	50V
C320	1-162-199-31	CERAMIC	10PF	5%	50V
C321	1-162-199-31	CERAMIC	10PF	5%	50V
C322	1-124-994-11	ELECT	100uF	20%	10V
C323	1-162-806-11	CERAMIC	0.1uF	10%	50V
C331	1-164-159-11	CERAMIC	0.1uF		50V
C332	1-162-205-31	CERAMIC	18PF	5%	50V
C447	1-164-159-11	CERAMIC	0.1uF		50V
C501	1-136-165-00	FILM	0.1uF	5%	50V
C502	1-136-165-00	FILM	0.1uF	5%	50V
C503	1-136-165-00	FILM	0.1uF	5%	50V
C504	1-162-806-11	CERAMIC	0.1uF	10%	50V
C505	1-136-165-00	FILM	0.1uF	5%	50V
C506	1-136-165-00	FILM	0.1uF	5%	50V
C507	1-136-165-00	FILM	0.1uF	5%	50V
C509	1-124-994-11	ELECT	100uF	20%	10V
C510	1-124-994-11	ELECT	100uF	20%	10V
C511	1-124-994-11	ELECT	100uF	20%	10V
C513	1-136-165-00	FILM	0.1uF	5%	50V
C521	1-162-285-31	CERAMIC	180PF	10%	50V
C522	1-162-285-31	CERAMIC	180PF	10%	50V
C523	1-162-286-31	CERAMIC	220PF	10%	50V
C524	1-162-286-31	CERAMIC	220PF	10%	50V
C525	1-106-359-00	MYLAR	4700PF	5%	200V
C526	1-106-343-00	MYLAR	1000PF	5%	200V
C527	1-124-910-11	ELECT	47uF	20%	50V
C530	1-164-159-11	CERAMIC	0.1uF		50V
C551	1-136-165-00	FILM	0.1uF	5%	50V
C552	1-136-165-00	FILM	0.1uF	5%	50V

Ref. No.	Part No.	Description			Remark
C555	1-136-165-00	FILM	0.1uF	5%	50V
C556	1-136-165-00	FILM	0.1uF	5%	50V
C601	1-136-165-00	FILM	0.1uF	5%	50V
C602	1-136-165-00	FILM	0.1uF	5%	50V
C603	1-136-165-00	FILM	0.1uF	5%	50V
C604	1-162-806-11	CERAMIC	0.1uF	10%	50V
C605	1-136-165-00	FILM	0.1uF	5%	50V
C606	1-136-165-00	FILM	0.1uF	5%	50V
C607	1-136-165-00	FILM	0.1uF	5%	50V
C609	1-124-994-11	ELECT	100uF	20%	10V
C610	1-124-994-11	ELECT	100uF	20%	10V
C611	1-124-994-11	ELECT	100uF	20%	10V
C613	1-136-165-00	FILM	0.1uF	5%	50V
C621	1-162-285-31	CERAMIC	180PF	10%	50V
C622	1-162-285-31	CERAMIC	180PF	10%	50V
C623	1-162-286-31	CERAMIC	220PF	10%	50V
C624	1-162-286-31	CERAMIC	220PF	10%	50V
C625	1-106-359-00	MYLAR	4700PF	5%	200V
C626	1-106-343-00	MYLAR	1000PF	5%	200V
C627	1-124-910-11	ELECT	47uF	20%	50V

< CONNECTOR >

CN221	*	1-564-510-11	PLUG, CONNECTOR 7P
CN356	*	1-568-834-11	SOCKET, CONNECTOR 15P
CN357	*	1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P
CN359	*	1-568-822-11	SOCKET, CONNECTOR 22P
CN360	*	1-568-955-11	PIN, CONNECTOR 6P
CN391	*	1-564-339-00	PIN, CONNECTOR 5P

< DIODE >

D201	8-719-200-82	DIODE 11ES2
D202	8-719-200-82	DIODE 11ES2
D203	8-719-200-82	DIODE 11ES2
D204	8-719-200-82	DIODE 11ES2
D205	8-719-200-82	DIODE 11ES2
D206	8-719-987-63	DIODE 1N4148M
D207	8-719-109-85	DIODE RD5.1ES-B2
D209	8-719-110-08	DIODE RD8.2ES-B2
D210	8-719-987-63	DIODE 1N4148M
D211	8-719-110-08	DIODE RD8.2ES-B2
D212	8-719-114-27	DIODE RD4.7JS-B3
D213	8-719-114-27	DIODE RD4.7JS-B3
D214	8-719-210-21	DIODE 11EQS04
D225	8-719-934-31	DIODE HZS36-3L
D322	8-719-987-63	DIODE 1N4148M
D391	8-719-109-89	DIODE RD5.6ES-B2
D501	8-719-987-63	DIODE 1N4148M
D502	8-719-987-63	DIODE 1N4148M
D601	8-719-987-63	DIODE 1N4148M
D602	8-719-987-63	DIODE 1N4148M

MAIN

Ref. No.	Part No.	Description	Remark
		< IC >	
IC201	8-759-630-21	IC M5290P-16	
IC325	8-759-822-78	IC LC3564PML-1015	
IC326	8-759-962-08	IC BA6208	
IC327	8-759-635-50	IC M37450M8-372FP	
IC328	8-752-337-26	IC CXD2500AQ	
IC329	8-759-917-18	IC SN74HCU04AN	
IC330	8-752-328-61	IC CXD1244S	
IC331	8-752-339-86	IC CXD2557M	
IC332	8-759-917-18	IC SN74HCU04AN	
IC350	8-749-921-20	IC T-1550	
IC391	8-759-633-65	IC M54641L	
IC501	8-752-335-53	IC CXD2552Q-3	
IC551	8-759-982-03	IC RC5532DD	
IC553	8-759-981-85	IC RC4556D	
IC601	8-752-335-53	IC CXD2552Q-3	
IC651	8-759-982-03	IC RC5532DD	
		< JACK >	
J361	1-569-443-21	JACK, PIN 4P (LINE OUT)	
		< COIL >	
L301	1-410-509-11	INDUCTOR 10uH	
L302	1-412-473-21	INDUCTOR 0uH	
L320	1-408-403-00	INDUCTOR 3.3uH	
		< TRANSISTOR >	
Q204	8-729-900-61	TRANSISTOR DTA114ES	
Q206	8-729-111-67	TRANSISTOR 2SB1094L	
Q207	8-729-140-96	TRANSISTOR 2SD774-34	
Q208	8-729-140-96	TRANSISTOR 2SD774-34	
Q209	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q210	8-729-111-67	TRANSISTOR 2SB1094L	
Q217	8-729-216-13	TRANSISTOR 2SK161GR	
Q218	8-729-905-67	TRANSISTOR 2SD1944-K	
Q223	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q323	8-729-900-80	TRANSISTOR DTC114ES	
Q501	8-729-900-61	TRANSISTOR DTA114ES	
Q502	8-729-201-05	TRANSISTOR 2SC2878-B	
Q503	8-729-900-74	TRANSISTOR DTC143TS	
Q504	8-729-900-74	TRANSISTOR DTC143TS	
Q601	8-729-900-61	TRANSISTOR DTA114ES	
Q602	8-729-201-05	TRANSISTOR 2SC2878-B	
Q603	8-729-900-74	TRANSISTOR DTC143TS	
Q604	8-729-900-74	TRANSISTOR DTC143TS	

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R201	1-249-425-11	CARBON	4.7K	5%	1/4W
R202	1-249-425-11	CARBON	4.7K	5%	1/4W
R203	1-249-424-11	CARBON	3.9K	5%	1/4W
R204 ⚠	1-212-869-00	FUSIBLE	33	5%	1/4W F
R205	1-249-435-11	CARBON	33K	5%	1/4W
R206	1-249-413-11	CARBON	470	5%	1/4W
R208	1-249-425-11	CARBON	4.7K	5%	1/4W
R213	1-249-417-11	CARBON	1K	5%	1/4W
R214	1-249-417-11	CARBON	1K	5%	1/4W
R216	1-249-417-11	CARBON	1K	5%	1/4W
R219	1-249-393-11	CARBON	10	5%	1/4W
R220	1-249-405-11	CARBON	100	5%	1/4W
R221	1-249-406-11	CARBON	120	5%	1/4W
R222	1-249-435-11	CARBON	33K	5%	1/4W
R225	1-249-441-11	CARBON	100K	5%	1/4W
R301	1-249-411-11	CARBON	330	5%	1/4W
R302	1-249-429-11	CARBON	10K	5%	1/4W
R304	1-249-429-11	CARBON	10K	5%	1/4W
R305	1-249-429-11	CARBON	10K	5%	1/4W
R306	1-249-429-11	CARBON	10K	5%	1/4W
R307	1-249-429-11	CARBON	10K	5%	1/4W
R308	1-249-429-11	CARBON	10K	5%	1/4W
R309	1-249-429-11	CARBON	10K	5%	1/4W
R310	1-249-429-11	CARBON	10K	5%	1/4W
R311	1-249-429-11	CARBON	10K	5%	1/4W
R312	1-249-429-11	CARBON	10K	5%	1/4W
R313	1-249-429-11	CARBON	10K	5%	1/4W
R314	1-249-429-11	CARBON	10K	5%	1/4W
R315	1-249-429-11	CARBON	10K	5%	1/4W
R316	1-249-429-11	CARBON	10K	5%	1/4W
R317	1-249-429-11	CARBON	10K	5%	1/4W
R318	1-249-429-11	CARBON	10K	5%	1/4W
R319	1-247-903-00	CARBON	1M	5%	1/4W
R320	1-249-417-11	CARBON	1K	5%	1/4W
R321	1-249-417-11	CARBON	1K	5%	1/4W
R322	1-249-417-11	CARBON	1K	5%	1/4W
R323	1-249-417-11	CARBON	1K	5%	1/4W
R324	1-249-417-11	CARBON	1K	5%	1/4W
R325	1-249-417-11	CARBON	1K	5%	1/4W
R329	1-249-411-11	CARBON	330	5%	1/4W
R330	1-249-417-11	CARBON	1K	5%	1/4W
R331	1-249-417-11	CARBON	1K	5%	1/4W
R332	1-249-417-11	CARBON	1K	5%	1/4W
R333	1-249-441-11	CARBON	100K	5%	1/4W
R334	1-249-429-11	CARBON	10K	5%	1/4W

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

MAIN | SWITCH | L. MOTOR | AC SW

Ref. No.	Part No.	Description			Remark
R335	1-249-423-11	CARBON	3.3K	5%	1/4W
R336	1-249-423-11	CARBON	3.3K	5%	1/4W
R337	1-249-429-11	CARBON	10K	5%	1/4W
R339	1-249-409-11	CARBON	220	5%	1/4W
R340	1-249-413-11	CARBON	470	5%	1/4W
R341	1-249-413-11	CARBON	470	5%	1/4W
R342	1-249-417-11	CARBON	1K	5%	1/4W
R343	1-249-413-11	CARBON	470	5%	1/4W
R344	1-249-413-11	CARBON	470	5%	1/4W
R345	1-249-413-11	CARBON	470	5%	1/4W
R346	1-249-413-11	CARBON	470	5%	1/4W
R347	1-249-417-11	CARBON	1K	5%	1/4W
R348	1-249-428-11	CARBON	8.2K	5%	1/4W
R349	1-249-436-11	CARBON	39K	5%	1/4W
R350	1-249-428-11	CARBON	8.2K	5%	1/4W
R351	1-249-436-11	CARBON	39K	5%	1/4W
R352	1-249-429-11	CARBON	10K	5%	1/4W
R355	1-249-393-11	CARBON	10	5%	1/4W
R391	1-249-429-11	CARBON	10K	5%	1/4W
R392	1-249-429-11	CARBON	10K	5%	1/4W
R521	1-215-443-00	METAL	8.2K	1%	1/6W
R522	1-215-443-00	METAL	8.2K	1%	1/6W
R523	1-215-443-00	METAL	8.2K	1%	1/6W
R524	1-215-443-00	METAL	8.2K	1%	1/6W
R525	1-215-436-00	METAL	4.3K	1%	1/6W
R526	1-215-447-00	METAL	12K	1%	1/6W
R527	1-215-436-00	METAL	4.3K	1%	1/6W
R528	1-215-447-00	METAL	12K	1%	1/6W
R529	1-249-419-11	CARBON	1.5K	5%	1/4W
R530	1-249-419-11	CARBON	1.5K	5%	1/4W
R531	1-249-409-11	CARBON	220	5%	1/4W
R532	1-249-409-11	CARBON	220	5%	1/4W
R533	1-249-409-11	CARBON	220	5%	1/4W
R534	1-247-891-00	CARBON	330K	5%	1/4W
R535	1-249-393-11	CARBON	10	5%	1/4W
R536	1-249-409-11	CARBON	220	5%	1/4W
R537	1-247-901-11	CARBON	820K	5%	1/4W
R551	1-249-435-11	CARBON	33K	5%	1/4W
R552	1-249-435-11	CARBON	33K	5%	1/4W
R553	1-249-435-11	CARBON	33K	5%	1/4W
R554	1-249-435-11	CARBON	33K	5%	1/4W
R555	1-249-425-11	CARBON	4.7K	5%	1/4W
R556	1-249-425-11	CARBON	4.7K	5%	1/4W
R557	1-249-435-11	CARBON	33K	5%	1/4W
R558	1-249-435-11	CARBON	33K	5%	1/4W
R621	1-215-443-00	METAL	8.2K	1%	1/6W
R622	1-215-443-00	METAL	8.2K	1%	1/6W
R623	1-215-443-00	METAL	8.2K	1%	1/6W
R624	1-215-443-00	METAL	8.2K	1%	1/6W
R625	1-215-436-00	METAL	4.3K	1%	1/6W
R626	1-215-447-00	METAL	12K	1%	1/6W
R627	1-215-436-00	METAL	4.3K	1%	1/6W
R628	1-215-447-00	METAL	12K	1%	1/6W
R629	1-249-419-11	CARBON	1.5K	5%	1/4W
R630	1-249-419-11	CARBON	1.5K	5%	1/4W
R631	1-249-409-11	CARBON	220	5%	1/4W
R632	1-249-409-11	CARBON	220	5%	1/4W
R633	1-249-409-11	CARBON	220	5%	1/4W
R634	1-247-891-00	CARBON	330K	5%	1/4W
R635	1-249-393-11	CARBON	10	5%	1/4W
R636	1-249-409-11	CARBON	220	5%	1/4W
R637	1-247-895-00	CARBON	470K	5%	1/4W
		< CRYSTAL >			
X331	1-579-161-11	VIBRATOR, CRYSTAL (45MHz)			
X355	1-577-377-11	VIBRATOR, CERAMIC (10MHz)			
**********					
*	1-632-974-11	SWITCH BOARD			
		**********			
*	1-632-975-11	L. MOTOR BOARD			
		**********			
		< CAPACITOR >			
C001	1-136-157-00	FILM	0.022uF	5%	50V
		< RESISTOR >			
R001 ⚠	1-215-880-00	METAL OXIDE	10	5% 2W	F
R002 ⚠	1-215-880-00	METAL OXIDE	10	5% 2W	F
		< SWITCH >			
S001	1-571-736-11	SWITCH, LEAF (IN)			
S002	1-571-736-11	SWITCH, LEAF (OUT)			
**********					
*	1-639-215-11	AC SW BOARD			
		**********			
		< CAPACITOR >			
C701	1-161-744-00	CERAMIC	0.01MF		400V
		< CONNECTOR >			
CN701	* 1-564-321-00	PIN, CONNECTOR 2P			
		< SWITCH >			
S701 ⚠	1-570-156-11	SWITCH, PUSH (AC POWER) (1 KEY) (POWER)			

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
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Ne les remplacer que par une pièce portant le numéro spécifié.

TRANSFORMER | REMOTE CONTROL VOL | TIMER SW

Ref. No.	Part No.	Description	Remark
	* 1-639-212-11	TRANSFORMER BOARD	
		**********	
		< CAPACITOR >	
C702	1-164-159-11	CERAMIC 0.1uF	50V
		< CONNECTOR >	
CN701	* 1-564-321-00	PIN, CONNECTOR 2P	
CN703	* 1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P	
CN702	* 1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P	
		< SWITCH >	
SW702 ⚠	1-571-722-11	SWITCH, VOLTAGE SELECTION (VOLTAGE SELECTOR) (E)	
		**********	
	* 1-639-211-11	REMOTE CONTROL VOL BOARD	
		**********	
		< CAPACITOR >	
C405	1-164-159-11	CERAMIC 0.1uF	50V
		< CONNECTOR >	
CN409	* 1-568-955-11	PIN, CONNECTOR 6P	
CN447	* 1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P	
		< VARIABLE RESISTOR >	
RV405	1-241-321-11	RES, VAR, CARBON 10KX3 (LINE OUT PHONE LEVEL)	
		**********	
	* 1-639-214-11	TIMER SW BOARD	
		**********	
		< SWITCH >	
S476	1-570-157-51	SWITCH, SLIDE (TIMER)	

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
72	1-535-896-11	JUMPER, FILM (WITH TERMINAL)	
73	1-590-882-11	WIRE, FLAT TYPE (15 CORE)	
103	1-590-883-11	WIRE, FLAT TYPE (22 CORE)	
110 ⚠	1-559-583-21	CORD, POWER (US, Canadian)	
112 ⚠	1-558-181-21	CORD, POWER (E)	
113 ⚠	1-559-555-21	CORD, POWER (UK)	
114 ⚠	1-558-568-21	CORD, POWER (AEP)	
115 ⚠	1-575-379-21	CORD, POWER (AUS)	
201	8-848-144-11	DEVICE, OPTICAL KSS-240A	
202	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
M001	A-4604-347-A	MOTOR (L) ASSY	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
Q206	8-729-111-67	TRANSISTOR 2SB1274SA-R	
RV405	1-241-321-11	RES, VAR, CARBON 10KX3 (LINE OUT PHONE LEVEL)	
S1015	1-572-085-11	SWITCH, LEAF (LIMIT IN)	
S7013 ⚠	1-570-156-11	SWITCH, PUSH (AC OIWER) (1 KEY) (POWER)	
T901 ⚠	1-449-921-11	TRANSFORMER, POWER (US, Canadian)	
T901 ⚠	1-449-922-11	TRANSFORMER, POWER (UK, AEP, AUS)	
T901 ⚠	1-449-923-11	TRANSFORMER, POWER (E)	
		**********	
		ACCESSORY & PACKING MATERIAL	
		**********	
	1-465-593-11	COMMANDER, REMOTE	
	1-558-271-11	CORD, CONNECTION	
	1-569-007-11	ADAPTOR, CONVERSION 2P (E)	
	3-704-343-01	SHEET (STANDARD), PROTECTION	
*	3-707-584-01	COVER, BATTERY	
	3-752-484-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUSE) (UK, E, AEP, Canadian)	
	3-752-484-21	MANUAL, INSTRUCTION (ENGLISH) (US, AUS)	
	3-752-484-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN) (AEP)	
*	3-795-629-11	INSTRUCTION	
*	4-934-098-01	STOPPER, DISK TABLE	
*	4-942-117-21	INDIVIDUAL CARTON	
*	4-944-761-01	CUSHION	
		**********	
		HARDWARE LIST	
		**********	
# 1	7-621-996-24	BOLT 2.6X4, HEXAGON SOCKET	
# 2	7-682-548-09	SCREW +BVTT 3X8 (S)	
# 3	7-682-548-04	SCREW +BVTT 3X8 (S)	
# 4	7-685-647-79	SCREW +P 3X10 TYPE2 SLIT	
# 5	7-621-770-67	SCREW +BVTT 2.6X6 (S)	
# 6	7-624-105-04	STOP RING 2.3, TYPE -E	
# 7	7-682-544-04	SCREW +P 3X3	
# 8	7-621-775-10	SCREW +BVTT 2.6X4 (S)	
# 9	7-621-255-15	SCREW +P 2X3	
#10	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
#11	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	

Note:
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Replace only with part number specified.

Note:
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Ne les remplacer que par une pièce portant le numéro spécifié.

9-956-227-11

Sony Corporation
Audio Group

English
91C0483-1
Printed in Japan
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CDP-X222ES

SONY

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model

SUPPLEMENT-1

File this supplement with the service manual.

1. **BLOCK DIAGRAM**
2. **PIN DESCRIPTION**
   - **IC327 Mechanism Controller**
   - **IC401 Master Controller**

9-956-227-81

Sony Corporation
Audio Group

English
91J0486-1
Printed in Japan

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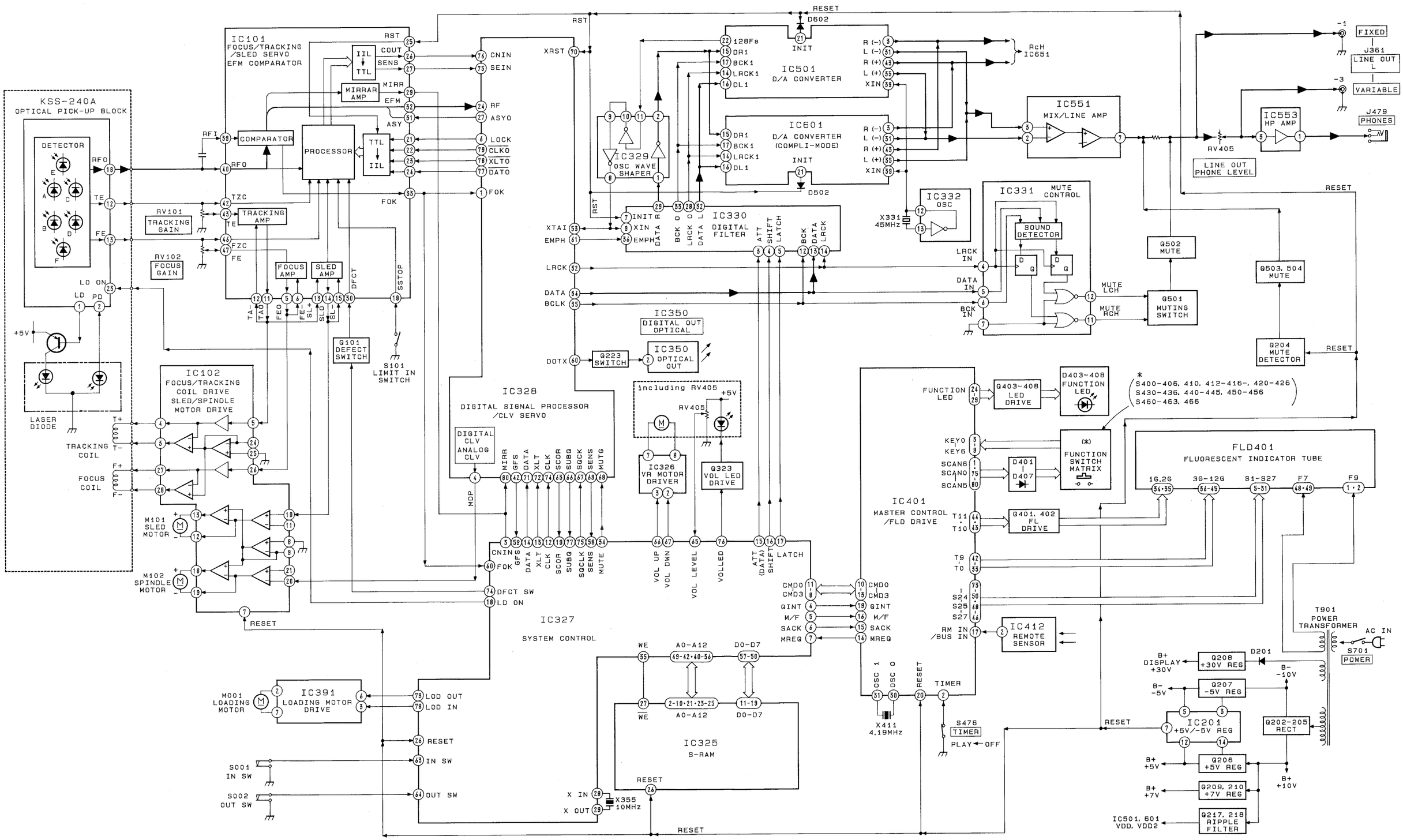
CDP-X222ES

1. BLOCK DIAGRAM



2. PIN DESCRIPTION

• IC327 MECHANISM CONTROLLER (M37450M8-372FP)

Functions effected by the captioned controller include IC101 (RF signal processing, servo), IC328 (DSP), IC330 (digital filter, custom file), loading control and volume motor control, data exchange with IC401 (master controller).

Pin No.	Pin Name	I /O	Description	Connect to the following parts.
1	NC	–	Not used (open)	
2	DIRCON	–	Not used (open)	
3	CNIN	I	Signal input for track jump count.	IC101 (SSP)
4	QINT	O	Interrupt output, the pulse output's when the data proceed to master controller	IC401
5	M/F	I/O	Command select I/O terminal. Custom file data : "L" Subcode data : "H"	IC401
6	SACK	O	Data transfer acknowledge signal output. The pulse output's when the data recevied.	IC401
7	MREQ	I	Command request input from master controller.	IC401
8 - 11	CMD3 - 0	I/O	Control command I/O.	IC401
12	CLK	O	Data transfer clock output.	IC328 (DSP), IC101 (SSP)
13	XLT	O	Serial data latch signal output.	IC328 (DSP), IC101 (SSP)
14	DATA	O	Serial data output	IC328 (DSP), IC101 (SSP)
15	ATT (DATA)	O	Serial data output for attenuate control	IC330 (D/F)
16	SHIFT (CLK)	O	Data transfer clock output	IC330 (D/F)
17	LATCH	O	Data latch signal output	IC330 (D/F)
18	LDON	O	Laser diode ON/OFF select output of optical pick-up. "H" : ON	IC101 (SSP)
19	SCOR	±	Subcode sync signal S0 + S1 detection input.	IC328 (DSP)
20	WR	O	} Not used (open)	
21	RD	O		
22	R/W	O		
23	SYNC	O		
24	RESET OUT	O	}	
25	CN Vss	I	Operation mode control signal input of processor.	
26	$\overline{\text{RESET}}$	I	Reset input. "L" : reset	IC201 (POWER)
27	NC	–	Not used (open)	
28	XIN	I	Clock input (1MHz)	X355
29	XOUT	O	Clock output	X355
30, 31	NC	–	Not used (open)	
32	Vss	–	Power supply (GND)	
33	AMUTE	O	Analog muting control output. Not in use with this model (pull up)	
34	MUTE	O	Muting control output. "H" : Mute	IC328 (DSP)
35	$\overline{\text{WE}}$	O	Write enable output to custom file memory.	IC325 (RAM)
36 - 40	A12 - 8	O	Address bus output to custom file memory.	IC325 (RAM)
41	NC	–	Not used (open)	
42 - 49	A7 - 0	O	Address bus output to custom file memory.	IC325 (RAM)

Pin No.	Pin Name	I /O	Description	Connect to the following parts.
50 - 57	D7 - 0	I/O	Address bus I/O to custom file memory.	IC325 (RAM)
58	SENS	I	SENS input	IC101 (SSP), IC328 (DSP)
59	GFS	I	Frame sync signal clock status input. "H" : OK	IC328 (DSP)
60	FOK	I	Focus OK signal input	IC101 (SSP)
61	ADJ	I	Test mode input. Upon "L", GFS checking is disabled while continuously rotating the spindle no matter whether frame sync is issued during PLAY, PAUSE or SEARCH and it is not effected the focus gain down.	
62	AFADJ	I	Test mode input. Various test operations are effected upon "L" after turning ON the POWER.	
63	INSW	I	Loading in switch input. Disc table closed : "L".	S001
64	OUT SW	I	Loading out switch input. Disc table opened : "L".	S002
65	V LEVEL	I	Location detecter input (analog) of phone level volume.	RV405
66	VOL UP	O	Volume motor control output. Volume up : "H" *1	IC326 (RV405)
67	VOL DWN	O	Volume motor control output. Volume down : "L" *1	IC326 (RV405)
68	D/A Vref	I	D/A converter reference voltage input (+5V).	
69	A/D Vref	I	A/D converter reference voltage input (+5V).	
70	AVss	–	Analog power supply (GND)	
71	AVcc	–	Analog power supply (+5V)	
72	Vcc	–	Power supply (+5V)	
73	Vss	–	Power supply (GND)	
74	DFCT SW	O	ON/OFF selector output for DEFECT circuit. The disc flaw detection circuit is turned off ("H") when facus-search.	IC101 (SSP)
75	SQ CLK		Subcode Q data readout clock output.	IC328 (DSP)
76	VOL LED	O	Volume LED ON/OFF control output. "H" : LED ON	Q323 (RV405)
77	SUBQ	I	Subcode Q data input.	IC328 (DSP)
78	LOD IN	O	Output to rotate the loading motor in the loading out direction. *2	IC391 (M001)
79	LOD OUT	O	Output to rotate the loading motor in the loading in direction. *2	IC391 (M001)
80	NC	–	Not used (open)	

*1 Volume motor control

	UP	DOWN	BRAKE
VOL UP ⑯	H	L	H
VOL DOWN ⑰	L	H	H

*2 Loading motor control

	IN	OUT	BRAKE
LOD IN ⑱	H	L	H
LOD OUT ⑲	L	H	H

• IC401 MASTER CONTROLLER (MSC62408-015GS-V1K)

In charge of displaying the FL tube, keying in and remote control signal input, data exchanges with the IC327 (mechanism controller) in 4-bit parallel mode.

Pin No.	Pin Name	I /O	Description	Connect to the following parts.
2	TIMER	I	Timer switch input. "H" : PLAY, "L" : OFF	S476
3 - 9	KEY0 - 6	I	Key matrix input.	KEY MATRIX
10 - 13	CMD0 - 3	I/O	Control command I/O terminals	IC327
14	M. REQ	O	Command request input to mechanism controller	IC327
15	S. ACK	I	Data transfer acknowledge signal input	IC327
16	M/F	I/O	Command select I/O terminal	IC327
17	RMIN	I	Remote control signal input	IC412
18	–	–	Not used (GND)	
19	Q. INT	O	Interrupt output. The pulse proceed when mechanism controller (IC327) received the data.	IC327
20	$\overline{\text{RESET}}$	I	Reset input. "L" : reset	IC201 (POWER)
21	TEST	I	Not used (GND)	
22	BUS OUT	O	Not used (open)	
23	TEST	I	Not used (pull up)	
24	INDEX	O	Panel LED ON/OFF control output. "H" : LED ON	Q403 - 408 (D408 - 412)
25	PGM	O		
26	SHUF	O		
27	CONT	O		
28	PAUSE	O		
29	PLAY	O		
30	$\overline{\text{OSCI}}$	I	Clock input (4.19MHz)	X411
31	$\overline{\text{OSCO}}$	O	Clock output	X411
32	GND	–	Ground	
33 - 44	T0 - 11	O	Output port for grid of FL tube.	FLD401
45	N. C	–	Not used (open)	
46 - 48	S1 - 3	O	Output port for segment of FL tube.	FLD401
49	VFLT	–	Power supply port for built-in Fl tube controller. (+37V)	
50 - 73	S4 - 27	O	Output port for segment of FL tube.	FLD401
74	V_{DD}	–	Power supply port (+5V)	
75 - 80	SCAN0 - 5	O	Key scan output	KEY MATRIX

CDP-X222ES

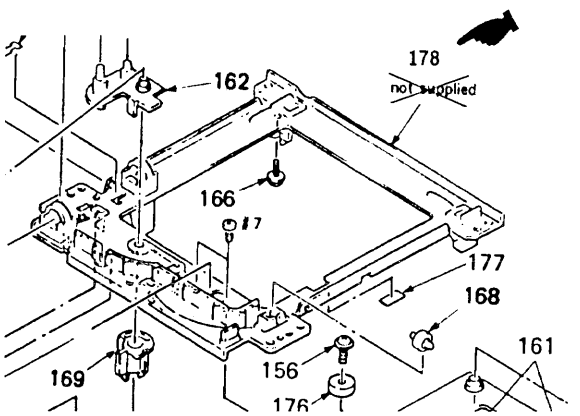
SONY
SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model

CORRECTION-1

Correct your service manual as shown below.

☛ : **indicates corrected portion.**

Page	INCORRECT			CORRECT	
	No.	Part No.	Description	Part No.	Description
23	178	———	not supplied ———	4-927-641-24	CHASSIS(OUTSERT) MECHANICAL ☛
	4-4. CD MECHANISM BLOCK (CDM11J-5BD3)				

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